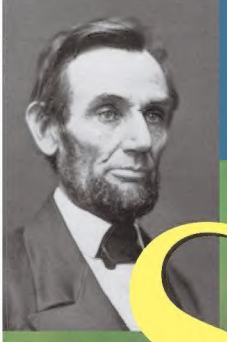

LINCOLN'S MOMENTOUS DECISION BY DORIS KEARNS GOODWIN

Smithsonian

JANUARY 2006

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HUGO CHAVEZ'S VENEZUELAN REVOLUTION

THE OBSESSIVE GENIUS OF PAUL CEZANNE

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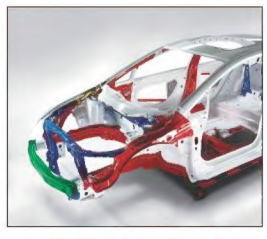

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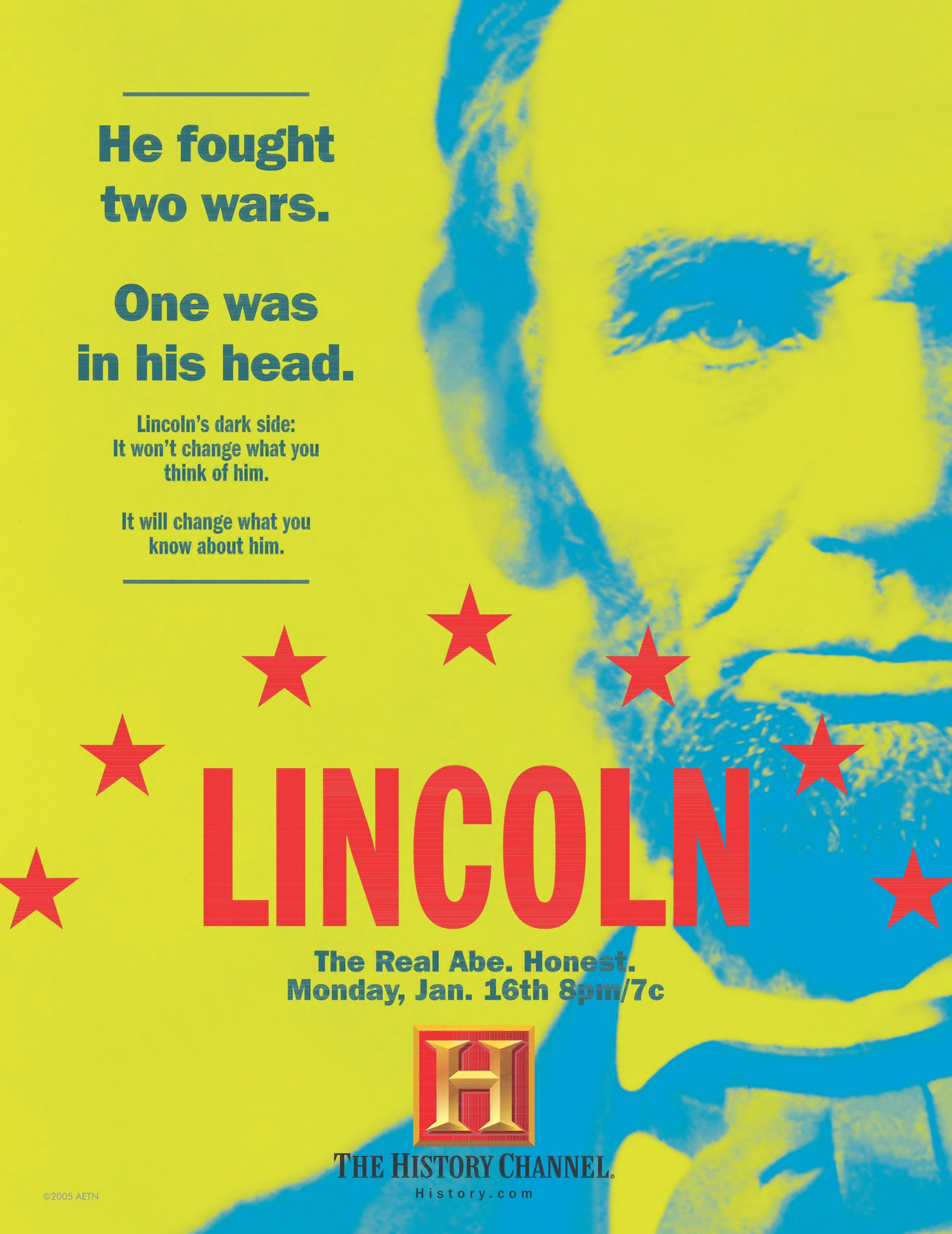
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JANUARY 2006 VOLUME 36, NUMBER 10

As the train left Alice Springs and began to climb the Great Larapinta Grade up to Bond Springs, at 2,390 feet the highest point on the line, the excitement onboard grew palpable: we were the first people to cross this part of Australia by train.

—"FULL SPEED AHEAD," PAGE 90

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36 THE FLU HUNTER

One of the first to sound the alarm about avian influenza, Robert Webster, the foremost expert on the disease, warns that it's only a matter of time before the virus "goes off"

BY MICHAEL ROSENWALD

48 "MY WHOLE SOUL IS IN IT"

Once Abraham Lincoln determined a constitutional way to free slaves in the Confederate states, not even the misgivings of his contentious cabinet could stay his hand

BY DORIS KEARNS GOODWIN

60 VENEZUELA STEERS A NEW COURSE

President Hugo Chávez's socialist policies and anti-U.S. rhetoric have won him support as well as skepticism at home and throughout Latin America

BY KATHERINE ELLISON / PHOTOGRAPHS BY PABLO CORRAL VEGA

72 HIPPO HAVEN

In Zimbabwe, where political unrest and rampant poaching are threatening already vulnerable animals, an idealistic couple has dedicated their lives to saving hippopotamuses

BY PAUL RAFFAELE

80 CÉZANNE

On the centenary of his death, the obsessive artist who anticipated modernism with his fresh use of color, form and perspective is celebrated with exhibitions of his works

BY PAUL TRACHTMAN

90 FULL SPEED AHEAD

Stretching 1,800 miles across the heart of the continent, Australia's first ever north-south transcontinental railroad is helping unite the nation and its diverse peoples

BY SIMON WORRALL / PHOTOGRAPHS BY PABLO CORRAL VEGA

THIS PAGE: Named for the camel drivers whose animals were key to the development of the outback, the Ghan (north of Katherine, in Australia's Northern Territory) provides luxury passenger service between Adelaide and Darwin. Photograph by Pablo Corral Vega.

COVER: A hippo (surrounded by water lettuce in Kruger National Park, in South Africa) spends much of the day in the water dozing, and forages at night, consuming 50 to 100 pounds of vegetation. Photograph by Tony Heald / Nature Picture Library. Inset: Christopher S. German / PictureHistory.

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DEPARTMENTS

12 INDELIBLE IMAGES HAPPY NEW YEAR
Photographer Slim Aarons captured the glamour and easy fraternity of four top movie stars as they rang in 1958
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From jays with fantastic memories to ants that poison trees they don't like, our new department explores life as we know it

19 THE OBJECT AT HAND AMERICAN IDOL
A glittering tiara recalls the Miss America Pageant in its prime
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22 POINTS OF INTEREST LAST RACE ON EARTH
Every other year a few hundred intrepid runners from around the world go the extra miles to compete in perhaps the coldest and muddiest of footraces: a marathon in Antarctica
BY JOHN HANC

102 PRESENCE OF MIND SWINGING 60S?
On the cusp of a significant birthday, America's "first" baby boomer, Kathleen Casey-Kirschling, reflects on her progress thus far
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To many, the hippo is a comical creature. But many Africans regard hippos, correctly, as the continent's most dangerous animal. Lore has it that hippos kill more people each year than lions, elephants, leopards, buffaloes and rhinos combined.

—"HIPPO HAVEN," PAGE 72

THIS PAGE: A hippopotamus (surfacing in a muddy pond in the Democratic Republic of Congo) has poor vision but a keen sense of smell. Photograph by Frans Lanting.

VISIT SMITHSONIAN MAGAZINE ON-LINE: For further reading about our story topics, more images from our photographers, listings of events and exhibitions at the museums, info about Smithsonian Journeys Educational Travel, or to join our readers' panel, please go to www.smithsonianmag.com

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MARCH - APRIL 2006

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(Dates subject to change)

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Hamilton, Bermuda
www.bermudafilmfest.com

March 17 – 26
GEORGIA INTERNATIONAL CHERRY BLOSSOM FESTIVAL
Macon, GA
www.cbfmacon.com/cms

April 14 - 16
WARBIRDS OVER WANAKA INTERNATIONAL AIRSHOW
Lake Wanaka, New Zealand
www.warbirdsoverwanaka.com

FEATUREDLISTING
January 14, 2006
Bayfront Park, Miami

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BRIAN NOYES

EDITOR'S NOTE

TIME TRAVELER

SMITHSONIAN GETS A NEW PUBLISHER

BY CAREY WINFREY

IT'S A NEW YEAR, and we have a new publisher and president, Thomas Ott, who comes to us with a quarter-century of magazine publishing experience. Most recently he was with the Reader's Digest Association, where he served as general manager and group publisher of the Home and Garden Group. "I love magazines," Ott says. "I love all the elements of the business, not just the marketing side but what it all means to the reader."

Before his Digest stint, Ott spent 16 years at Time, Inc., starting as an advertising account manager in *Time* magazine's Los Angeles office and taking on positions of rapidly increasing responsibility, including publisher of *Time* Canada. From 2001 to 2005 he was group publisher of Time, Inc.'s *Field & Stream* and *Outdoor Life*, both of which saw a redesign on his watch. Prior to that, he was publisher and president of *This Old House*, one of the most successful launches of the 1990s.

Ott, who grew up on Long Island, New York, and graduated from Providence College, began his career with Hearst magazines, where he worked in circulation and advertising sales. Ott lives in South Salem, New York, with his wife, Joan, and their children, Mike and Jessica.

Publisher Ott: "I love magazines. I love all elements of the business."

His goal for SMITHSONIAN? To help the editors cover "what makes people interested in the world around them."

MICHAEL ROSENWALD'S interest in viruses and in virus researcher Robert Webster, who probably knows more about avian flu than anyone, has its origins, Rosenwald admits, in his own hypochondria. As a kid, Rosenwald made his parents drive him to the emergency room with imaginary diseases so often that they finally suggested he take a taxi. "I heard about bird flu and I was worried about it," Rosenwald says, "so I proposed a story that would give me a chance to learn more." Rosenwald, who covers business for the *Washington Post*, profiled Webster for this issue ("The Flu Hunter," p. 36). One of the places Rosenwald interviewed the researcher was at St. Jude Children's Research Hospital in Memphis, Tennessee, a major treatment center for catastrophic childhood diseases where Webster conducts his research. Surrounded by children of all ages, many of whom had lost their hair to the effects of chemotherapy, Rosenwald asked the physician if he found it difficult to work among young people who might not beat the diseases they are so gallantly fighting. "No," Webster answered. "Because every day you come in and see why you're doing it."

TIME IS RUNNING OUT: Entries for our third annual photo contest are due January 5. For categories, rules and on-line submission instructions, please go to www.smithsonianmag.com.

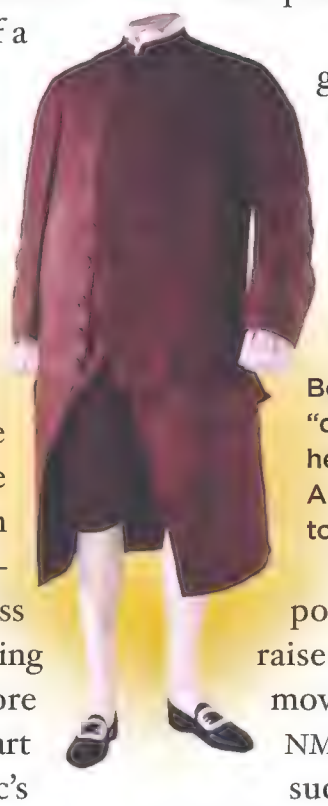
Dressed-down Democracy

Franklin's 300th birthday this month reminds us of common ideals and artifacts that reflect them—from a simple suit to an iconic lunch counter

BENJAMIN FRANKLIN was a man on a mission. In October 1776, he sailed for Paris, where he joined two other Americans. All were there to persuade the French government of King Louis XVI to form a political alliance with their fledgling country and support the revolutionary cause. Franklin, as much of the world knew already, was a celebrated author, scientist, printer and inventor. Europeans would soon learn he was also a skilled diplomat. Today, his considerable accomplishments as a statesman are highlighted in a traveling exhibition, "Benjamin Franklin: In Search of a Better World," and "Benjamin Franklin: A Revolutionary Role," a new display at the National Museum of American History (NMAH), which opens this month, in recognition of Franklin's 300th birthday. (See americanhistory.si.edu/franklin.)

Franklin understood how sensitive his assignment in Paris was and measured his words as carefully as he minded his appearance. While in France, he wore simple and unadorned "ditto" suits, so named because his coat, waistcoat and breeches were cut from the same fine silk. One such suit, exhibited at NMAH on long-term loan from the Massachusetts Historical Society, was once a deep plum color and served as business attire. He wore a similar suit to Versailles, when meeting the king. Most men of that day wore far fancier, more regal clothes. But Franklin was keen to set himself apart and project an image in keeping with the new republic's shared values and ideals. While others donned powdered wigs, put on embroidered waistcoats, and carried ceremonial swords or scepters, Franklin preferred his plain suits, a fur cap and a walking stick. That well-crafted image, combined with Franklin's intelligence, international stature and what one observer described as his "evenness of temper" and "unshakeable serenity" resulted in unqualified success. France agreed in February 1778 to sign a treaty of alliance.

Franklin played an instrumental part in those early and most difficult days of America's transformation from a Colonial outpost to a democratic republic. One of the items in NMAH's political history collection (in all, more than 100,000 artifacts) is Franklin's walking stick, an object he valued so highly that he bequeathed it to George Washington. The huge NMAH collection tells the story of the creation and development of our American democracy as it spans the whole history of the country—from the portable desk on which Thomas Jefferson penned a first draft of the Declaration of Independence and the tilt-top table Elizabeth Cady Stanton used while writing the Declaration of Sentiments calling for women's rights, to the inkwell Abraham Lincoln used, according to one account, to draft the Emancipation Proclamation (see p. 48), a microphone Franklin Delano Roosevelt spoke into while broadcasting his fireside chats and posters from the 2004 political conventions.



Ben Franklin's "ditto" suit helped convey American values to the French.

JEFF TINSLEY / OIPPS, S.I.; NATIONAL MUSEUM OF AMERICAN HISTORY, S.I. / MASSACHUSETTS HISTORICAL SOCIETY

And yet the story of how Thirteen Colonies grew to become a nation of nearly 300 million people is not a tale that can be told with only history's boldfaced names. On February 1, 1960, four African-American students at the North Carolina Agriculture and Technical College sat down at the lunch counter in a Woolworth's store in Greensboro. They asked for service, but were refused. Rather than leave the restaurant as asked, they sat, silently and movingly protesting the company's policy of racial discrimination. Their defiance raised people's awareness and helped to inspire a movement to challenge injustice. Curators at the NMAH have long recognized the important place such actions hold in the history of the United States. They have gathered and saved protest signs from every major march on Washington as well as the banners, pins, pamphlets and other artifacts representing every cry for reform, respect and recognition, from the abolition of slavery to the drive for civil rights. Even the lunch counter at which the Greensboro Four once sat and simply asked to be treated as equals is in the NMAH collection. Between that counter and Franklin's understated suit exists a common spirit that all Americans can proudly call their own.

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LETTERS

Readers respond to the November issue:

VIVE LA DIFFÉRENCE

THE SPECIAL 35TH anniversary issue about people who have made a difference, chosen from those covered in past issues, is one of the finest that I have ever seen. It is a keeper! Thanks for the depth of this issue.

JACK HOLCOMB
WEST READING, PENNSYLVANIA

I EAGERLY AWAIT my copy of SMITHSONIAN each month, but this issue was a total disappointment. It was lying in the recycling bin within 15 minutes. Your magazine hardly ever gets recycled at all, except to another reader. Why would you deviate from your regular format to celebrate an anniversary? Why leave what has been successful? If you want to give your readers a special surprise, give them more of what you normally do, give them a double issue. I feel like I've been cheated.

WAYNE WEISS
MIDDLETON, WISCONSIN

YOU FINALLY DID IT. After 35 years, during which I read every issue cover to cover, you have produced a boring magazine. If you will just continue doing what you have done so well for the past 35 years, I will forgive this one lapse.

WARREN MCFARLAND
WINTER SPRINGS, FLORIDA

I HAVE EVERY SMITHSONIAN, beginning with the first issue, and have read each one from cover to cover. I find articles that I wouldn't read anywhere else. When I saw the November cover my first reaction was, "I don't want to read about a bunch of people," but then as I looked at the names, I thought "Well, I'd be interested in that person and that person . . . " So, once again, I read it from cover to cover. Here's to another 35 years.

LILITH
VENTURA, CALIFORNIA

Remember measles?

Remember rubella?

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LETTERS

HOW SAD THAT SMITHSONIAN could think of no better way to celebrate 35 years of publishing than to devote an entire issue to personal biographies. What's the point of preaching to the choir when your audience is already familiar with these illustrious overachievers? Why celebrate with backpatting and horn-tooting?

JOHN OCCHUIZZO
GREENSBURG, PENNSYLVANIA

IT WAS SUCH a pleasure to read of the many people who have made such an impact. The November issue was insightful and thoughtful, and touched on so many different fields. No vacuous starlets, no overpaid athletes: these are the real people who make a difference. Bravo!

NANCY DAVISON
NEW BRAUNFELS, TEXAS

READING THE ARTICLES in this issue was like having brief conversations with these 35 people who "made a difference." The profiles revealing their lives, thoughts, hopes and concerns may lead others to try to make a difference too.

LYNWOOD G. COLLINS
MACON, GEORGIA

THANK YOU for profiling Mark Plotkin, Richard Leakey, Daphne Sheldrick, David Attenborough, Daniel Janzen and Janis Carter. These luminaries share a reverence for all life, striving to conserve the planet's ecosystems.

BRIEN COMERFORD
GLENVIEW, ILLINOIS

MY DAUGHTER and I had the pleasure of meeting Sally Ride during one of her science camps at the University of Michigan in Ann Arbor. My daughter, a fourth grader at the time, has always been interested in science, and still glows when she remembers her conversation with Dr. Ride. Now 16 and a junior in high school, she is the captain of the school robotics team, and spent the summer at her first job building hydrogen energy reactors. She plans to attend the University of Michigan and study astrophysics. All I can say is, "Go, Sally, go!"

SHARON KRASNER
HUNTINGTON WOODS, MICHIGAN

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HAPPY NEW YEAR

TO PHOTOGRAPHER SLIM AARONS,
THE BIGGEST STARS WERE AULD ACQUAINTANCES

BY OWEN EDWARDS

OF THE MANY HOLIDAYS Americans celebrate, none is half so glamorous—I may be going back a few years here—as New Year's Eve, when we break out the best of our wardrobes as if to show the arriving future that we haven't lost a step during the year just past. And no image of New Year's Eve is more glamorous than the picture taken by Slim Aarons of four great film leading men at Romanoff's restaurant in Hollywood on the last day of 1957. Though nostalgia has its dangerous side effects, not least a tendency to resent the way things are now, it's hard not to look at this picture and think that there was a time when movie stars really were larger than life.

The photograph has become known as *The Kings of Hollywood*, but what makes it so endlessly appealing is the intimate glimpse it gives us not of a kind of royalty, but of four friends on top of their glittering world, at home in white tie and chic surroundings and so clearly at ease with one another.

For readers not addicted to such classic movies as *Gone With the Wind*, *Battle Cry*, *High Noon* and *Rear Window*, the four are (from left) Clark Gable, Van Heflin, Gary Cooper and Jimmy Stewart—a Mount Rushmore of stardom. In an afterword to *High Society*, a collection of decades' worth of pictures published in *Town & Country* magazine, novelist Louis Auchincloss praised the Aarons photograph as "the greatest of all in this volume," and said of its subjects, "they compose the very image of American he-men. You feel sure they could strip off their finery and punch you in the nose the moment you got out of hand. And then go back to dazzle the ladies at the bar after their brief male recess."

The relaxation of these film greats says as much about the photographer as it does about his subjects. The stars were at ease around Aarons—who was (and, at 89, still is) tall, elegantly slender and well dressed—for good reason: they all knew him.

"I had done photographs from my New York apartment at 57th and Park to help Alfred Hitchcock on the set design for *Rear Window,* and I'd gotten to know Jimmy Stewart," Aarons recalls. "I was friends with Gable too—I [later] hung around with him when he was filming *It Started in Naples* with Sophia Loren, and even played a small part in the movie. When my wife and I went to parties at stars' homes in Los Angeles, I would never go off later and knock them, and they knew that. So when I walked over to the bar at Romanoff's with my camera, I wasn't an intruder.

A Mount Rushmore of stardom: Gable (left) cracks a joke at the photographer's expense with friends Heflin, Cooper and Stewart.

Aarons' colleagues kept covering wars. He had other ideas.

Aarons (at a showing of his work in 2003) said he wanted to shoot "attractive people doing attractive things in attractive places."

In fact, the reason these guys are laughing is that Gable is telling them how bad he thought I'd be in the movie."

Not all stars of the '50s were he-men, of course, but these screen kings, besides playing heroes, had what today might be called "street cred." Stewart, who had already won an Academy Award in 1940 for *The Philadelphia Story,* piloted a B-24 on 20 combat missions over Germany. Gable joined the Army in his 40s and also flew in bombers over Germany, winning the Distinguished Flying Cross. Heflin served in the Army field artillery, and though Cooper wasn't in the military, he visited hazardous areas of the Pacific making personal appearances for the troops. These men knew that Aarons had earned his spurs with the Army, as a combat photographer who had been wounded at Anzio in Italy and had recorded action on the front lines throughout the European theater for *Yank* magazine. He worked beside such legends as Ernie Pyle, Robert Capa and Carl Mydans, but while Capa kept covering wars, Aarons had other ideas.

"After the war," he says, "the only beaches I wanted to hit were the ones with beautiful girls on them." He told friends he wanted to make a career of photographing "attractive people doing attractive things in attractive places."

And thus Aarons became one of the most successful chroniclers of the rich and famous for magazines such as *Life*, *Holiday* and *Town & Country.* What separated him from a run-of-the-mansion celebrity portraitist is his offhand intimacy and sly wit. He never made fun of his subjects; rather, he liked to show them having fun, or poking a little fun at themselves.

The genesis of *The Kings of Hollywood* is not entirely clear. Aarons recalls being in Romanoff's that night to shoot the glitterati for *Life* or *Holiday.* Frank Zachary, the legendary art director turned editor who worked at both *Holiday* and *Town & Country*, thinks the picture was done for *Town & Country*, though before he got there in 1972. "It ran as a one-column society party picture," says Zachary, now in his 90s and still a consultant for the Hearst Corporation. "I came across it years later and thought it was a great picture, so I ran it as a two-page spread in a photo essay called 'Slim's Guys.' It's still one of my favorite pictures."

Full disclosure: A print of this picture hangs on my office wall. But I keep it behind my desk, so I'm not facing it. If I saw it too often, I might grow resentful at the way things are now.

OWEN EDWARDS is the former exhibitions critic for American Photographer.

MATTHEW PEYTON / GETTY IMAGES; PP. 12, 13 SLIM AARONS / GETTY IMAGES

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Wild Things

- LIFE AS WE KNOW IT -

WHAT'S UP? Newborn orcas and dolphins don't sleep for a month. • Since 2000, U.S. forests have expanded by an area larger than Delaware.

HIGH-TECH BUTTERFLIES

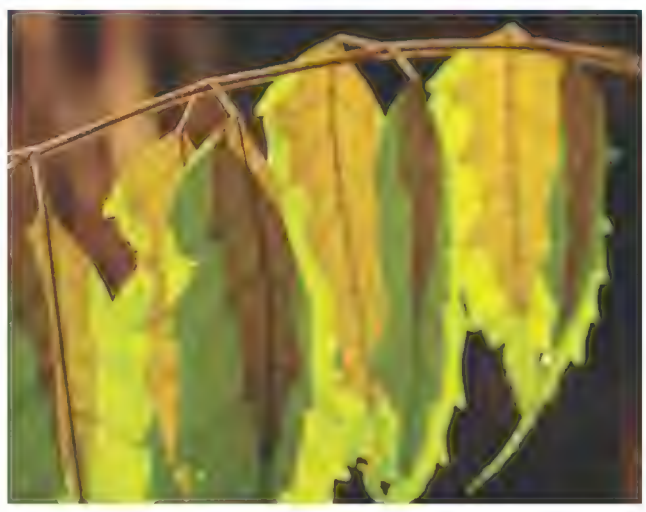
Light-emitting diodes (LEDs) found in the latest electronics use specialized crystals and reflectors to shine. Swallowtail butterflies in Africa, scientists in the U.K. recently discovered, have fluorescent patches on their wings that use the same optical mechanisms to flash mating and territorial signals.

ZEBRA OF A DIFFERENT COLOR

THE QUAGGA, WHICH LOOKED LIKE A CROSS BETWEEN A HORSE AND A ZEBRA, WAS HUNTED TO EXTINCTION 100 YEARS AGO, BUT SCIENTISTS AREN'T DONE WITH IT YET. A DNA ANALYSIS OF 13 MUSEUM SPECIMENS, CONDUCTED BY SMITHSONIAN SCIENTISTS AND OTHERS, SHOWS THAT QUAGGAS SPLIT FROM ZEBRAS 120,000 TO 290,000 YEARS AGO, PROBABLY DURING AN ICE AGE.

THERE GOES THE 'HOOD

Ants have a reputation for gargantuan strength and an unflagging work ethic. A new study led by Megan Frederickson of Stanford University shows they're also skilled in forestry. Tiny lemon ants of the Peruvian Amazon live in the hollow stems of the *Duroia hirsuta* tree and inject a lethal dose of formic acid into any plant that dares take root nearby (right, dying, ant-poisoned leaves). The discovery explains why the rain forest is dotted with vast *Duroia hirsuta* stands, so bereft of other vegetation they're known locally as "devil's gardens."



A MEMORABLE FEAST

Western scrub jays are smart, hiding food in trees or underground and retrieving it later. It now seems their memories are even keener than previously believed. In lab tests by Nicky Clayton of the University of Cambridge, jays remembered where they stored food days or weeks earlier, and whether they hid nuts or worms. They often moved their stash if another bird that had seen them hide it was put in their cage. And yet they cleverly avoided going near their food if their new cagemate hadn't seen where they put the stuff. People have long puzzled over which characteristics distinguish humans from other animals, eventually ruling out tool use and language. The new research shows that another supposed human exclusive—the ability to remember specific past events—requires nothing more than a bird brain.

Observed

NAME: Sea lamprey *(Petromyzon marinus)*

RAP SHEET: Invasive gut-sucking fish native to the Atlantic Coast; has devastated Great Lakes trout and whitefish.

NOTABLE ACHIEVEMENT: At mating time, the immature fish guide the adults.

RECENTLY SEEN IN: A study pinpointing the pheromone that larval lampreys emit to lead adults to spawning grounds. The find—the first migratory attractant identified in fish—could lead to lamprey contraceptives.

QUOTE: "The Great Lakes Fishery Commission has the goal of controlling lamprey with a new and better technique by 2010. This could be it." —University of Minnesota biologist Peter W. Sorenson, study co-leader.

CLOCKWISE FROM TOP LEFT: PETER VUKUSIC / UNIVERSITY OF EXETER; MUSEUM MENSCH UND NATUR, MUNICH; BBC NATURAL HISTORY UNIT; GARY MESZAROS / PHOTO RESEARCHERS; GEORGE MCCARTHY / CORBIS

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Important information: VYTORIN is a prescription tablet and isn't right for everyone, including women who are nursing or pregnant or who may become pregnant, and anyone with liver problems. Unexplained muscle pain or weakness could be a sign of a rare but serious side effect and should be reported to your doctor right away. VYTORIN may interact with other medicines or certain foods, increasing your risk of getting this serious side effect. So, tell your doctor about any other medications you are taking.

To learn more, call 1-877-VYTORIN or visit vytorin.com. Please read the Patient Product Information on the adjacent page.

Continue to follow a healthy diet, and ask your doctor about adding VYTORIN.

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Read this information carefully before you start taking VYTORIN. Review this information each time you refill your prescription for VYTORIN as there may be new information. This information does not take the place of talking with your doctor about your medical condition or your treatment. If you have any questions about VYTORIN, ask your doctor. Only your doctor can determine if VYTORIN is right for you.

What is VYTORIN?

VYTORIN is a medicine used to lower levels of total cholesterol, LDL (bad) cholesterol, and fatty substances called triglycerides in the blood. In addition, VYTORIN raises levels of HDL (good) cholesterol. It is used for patients who cannot control their cholesterol levels by diet alone. You should stay on a cholesterol-lowering diet while taking this medicine.

VYTORIN works to reduce your cholesterol in two ways. It reduces the cholesterol absorbed in your digestive tract, as well as the cholesterol your body makes by itself. VYTORIN does not help you lose weight.

Who should not take VYTORIN?

Do not take VYTORIN:

- If you are allergic to ezetimibe or simvastatin, the active ingredients in VYTORIN, or to the inactive ingredients. For a list of inactive ingredients, see the "Inactive ingredients" section at the end of this information sheet.
- If you have active liver disease or repeated blood tests indicating possible liver problems.
- If you are pregnant, or think you may be pregnant, or planning to become pregnant or breast-feeding.

VYTORIN is not recommended for use in children under 10 years of age.

What should I tell my doctor before and while taking VYTORIN?

Tell your doctor right away if you experience unexplained muscle pain, tenderness, or weakness. This is because on rare occasions, muscle problems can be serious, including muscle break-down resulting in kidney damage.

The risk of muscle breakdown is greater at higher doses of VYTORIN.

The risk of muscle breakdown is greater in patients with kidney problems.

Taking VYTORIN with certain substances can increase the risk of muscle problems. It is particularly important to tell your doctor if you are taking any of the following:

- cyclosporine
- danazol
- antifungal agents (such as itraconazole or ketoconazole)
- fibric acid derivatives (such as gemfibrozil, bezafibrate, or fenofibrate)
- the antibiotics erythromycin, clarithromycin, and telithromycin
- HIV protease inhibitors (such as indinavir, nelfinavir, ritonavir, and saquinavir)
- the antidepressant nefazodone
- amiodarone (a drug used to treat an irregular heartbeat)
- verapamil (a drug used to treat high blood pressure, chest pain associated with heart disease, or other heart conditions)
- large doses (≥1 g/day) of niacin or nicotinic acid
- large quantities of grapefruit juice (>1 quart daily)

It is also important to tell your doctor if you are taking coumarin anticoagulants (drugs that prevent blood clots, such as warfarin).

Tell your doctor about any prescription and nonprescription medicines you are taking or plan to take, including natural or herbal remedies.

Tell your doctor about all your medical conditions including allergies.

Tell your doctor if you:

- drink substantial quantities of alcohol or ever had liver problems. VYTORIN may not be right for you.
- are pregnant or plan to become pregnant. Do not use VYTORIN if you are pregnant, trying to become pregnant or suspect that you are pregnant. If you become pregnant while taking VYTORIN, stop taking it and contact your doctor immediately.
- are breast-feeding. Do not use VYTORIN if you are breast-feeding.

Tell other doctors prescribing a new medication that you are taking VYTORIN.

How should I take VYTORIN?

- Take VYTORIN once a day, in the evening, with or without food.
- Try to take VYTORIN as prescribed. If you miss a dose, do not take an extra dose. Just resume your usual schedule.
- Continue to follow a cholesterol-lowering diet while taking VYTORIN. Ask your doctor if you need diet information.
- Keep taking VYTORIN unless your doctor tells you to stop. If you stop taking VYTORIN, your cholesterol may rise again.

What should I do in case of an overdose?

Contact your doctor immediately.

What are the possible side effects of VYTORIN?

See your doctor regularly to check your cholesterol level and to check for side effects. Your doctor may do blood tests to check your liver before you start taking VYTORIN and during treatment.

In clinical studies patients reported the following common side effects while taking VYTORIN: headache and muscle pain (see What should I tell my doctor before and while taking VYTORIN?).

The following side effects have been reported in general use with either ezetimibe or simvastatin tablets (tablets that contain the active ingredients of VYTORIN):

- allergic reactions including swelling of the face, lips, tongue, and/or throat that may cause difficulty in breathing or swallowing (which may require treatment right away), rash, hives; joint pain; alterations in some laboratory blood tests; liver problems; inflammation of the pancreas; nausea; gallstones; inflammation of the gallbladder.

Tell your doctor if you are having these or any other medical problems while on VYTORIN. This is <u>not</u> a complete list of side effects. For a complete list, ask your doctor or pharmacist.

General Information about VYTORIN

Medicines are sometimes prescribed for conditions that are not mentioned in patient information leaflets. Do not use VYTORIN for a condition for which it was not prescribed. Do not give VYTORIN to other people, even if they have the same condition you have. It may harm them.

This summarizes the most important information about VYTORIN. If you would like more information, talk with your doctor. You can ask your pharmacist or doctor for information about VYTORIN that is written for health professionals. For additional information, visit the following web site: vytorin.com.

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Miss America's tiara, 1951
NATIONAL MUSEUM OF AMERICAN HISTORY

HUGH TALMAN / NATIONAL MUSEUM OF AMERICAN HISTORY, SMITHSONIAN INSTITUTION; ARCHIVE CENTER, NMAH, S.I.

AMERICAN IDOL

ONCE UPON A TIME, MISS AMERICA REIGNED SUPREME

BY OWEN EDWARDS

BEFORE "Survivor," "The Apprentice" and "Fear Factor," only two elimination contests mattered to America. One gave us a president, and the other gave us Miss America. At the culmination of the first, the winner stood on the steps of the Capitol while the chief justice of the United States administered the oath of office. At the climax of the second, the winner—inevitably shedding tears of happiness—walked on a raised runway wearing her glittering crown while Bert Parks sang "There she is, Miss America . . . " And so she was, unequivocally, our reigning beauty, queen of an envious court, each member of whom had risen through a series of local, county and state contests to make it to pulchritude's perilous peak.

But that was decidedly then; this is implacably now. There is an overabundance of "Miss" (and Ms. and Mrs.) contests today, including Miss

After 50 years, fans nearly found Miss America missing in action.

World, Miss Universe, and even, of late, Miss Fear Factor. There was a time when seeing pretty young women walk, stop and twirl in one-piece bathing suits and high heels was enough to raise the collective pulses of all the men in the audience. But in this age of maximum exposure, when practice may still get you to Carnegie Hall but modesty will not get you on MTV, the swimsuit competition long ago began to seem as staid as a Pillsbury Bake-Off. Sadly, in the back-stabbing era of "Joe Millionaire" and "elimiDATE," even Miss Congeniality seems more like somebody's fool than everybody's pal.

The venerable Miss America contest is up against it when young women in bikinis are ready to eat bugs and grubs for fame and TV ratings. Things have gotten so glum that as of this writing, ABC-TV has dropped covering the Miss America Pageant due to a drastically diminished audience. (Fewer than ten million viewers tuned in last year.) But happily for those still warmed by that old queen-for-a-year magic, the Country Music Channel plans to broadcast the contest—from Las Vegas, not Atlantic City—on January 21. This sideways slippage from network to cable, and from the seaside to the Strip, while not fatal to our national fairy tale, seems ominous. The first television broadcast in 1954 brought winner Lee Meriwether to fame, but after half a century, longtime fans may find Miss America missing in action.

Recognizing the decline, National Museum of American History curator David Shayt thought the Smithsonian should acquire an artifact from this dowager of beauty pageants. "We figured there'd be lots of clothes," says Shayt, "but clothes come with conservation problems, so early on we decided to try for a distinctive, hard artifact."

Fox (wearing the pageant crown, not the one she usually wore and donated) says her title was "trouble."

Shayt headed for New Jersey, where, at the Sheraton Atlantic City on Miss America Way, a collection of gowns, crowns and a bronze statue of Bert Parks remains on permanent display. "They didn't want to offer the kind of thing we were after," Shayt recalls, "so we asked them to send a letter from us to winners we thought might want to donate their crowns." A total of 20 winners responded. "They were willing to lend, but not to donate," Shayt says. Then, 1951's Miss America, Yolande Betbeze Fox, contacted the museum from her home in nearby Georgetown and offered not only her crown but also her scepter and Miss America sash. According to Shayt, the "perfectly delightful" Fox set no conditions for the display of her donations. "She just wanted the museum to have them," he says.

Fox may have been the most unconventional Miss America ever. Born Yolande Betbeze in Mobile, Alabama, in 1930, she comes from Basque ancestry, and her dark, exotic looks were hardly typical of beauty contestants in the '50s. But her magnetism, and a well-trained operatic voice, focused the judges' attention.

Betbeze wore the fabled crown uneasily. In 1969, she recalled to the *Washington Post* that she had been too much of a nonconformist to do the bidding of the pageant's sponsors. "There was nothing but trouble from the minute that crown touched my head," she said. For one thing, she declined to sign the standard contract that committed winners to a series of promotional appearances. And one of her first acts was to inform the Catalina bathing suit company that she would not appear in a swimsuit in public unless she were going swimming. Spurned, Catalina broke with the Miss America Pageant and started Miss Universe.

When Betbeze's yearlong reign came to an end, she studied philosophy at Manhattan's New School of Social Research. She continued to sing, appearing with the Mobile Opera Guild in *The Tales of Hoffmann*. In 1954 she married Matthew Fox, a businessman and movie producer, and began mounting plays in an off-Broadway theater she helped found.

Today, Fox, a widow, lives much of the year in a Georgetown house once owned by Jackie Kennedy. Luckily for the Smithsonian, says Shayt, she admits to being a "bit of a pack rat," so, though she eschewed the pomp (and circumstances) of her Miss America victory, she never relinquished her crown, now part of America's cultural heritage.

"The crown has seen better days," says Shayt. "It's been lent to the pageant a few times, and there are some rhinestones missing." But for those of us who remember when Miss America symbolized beauty and the best, even a battered crown still bedazzles.

OWEN EDWARDS is executive editor of Edutopia, *a magazine in California.*

AP / WIDE WORLD PHOTOS

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LAST RACE ON EARTH

IN A QUEST FOR THE ULTIMATE CHALLENGE, MARATHONERS GO THE DISTANCE IN ANTARCTICA **BY JOHN HANC**

AT THE TOP OF THE GLACIER, I turned to look out over Maxwell Bay. Slivers of sunlight pierced the morning fog, revealing in the blue-green waters below the two ships that had taken us from the tip of South America, across the Drake Passage and into Antarctica. Snow-covered peaks zigzagged along the distant horizon. It was a spectacular sight, but one I didn't have time to savor. I had to run—22.2 more miles, to be precise.

I was four miles into the Last Marathon, a 26.2-mile footrace in Antarctica, known as the Last Place on Earth. Ice crunching underfoot, I started my descent, teetering down the steep glacier, part of a trail that cut across fields of rock, shallow streams and slushy snow. A layer of custard-thick mud, the result of an unusually warm Antarctic summer with temperatures in the 30s, covered much of the course.

MAP: ELIZABETH WOLF; JOHN RODSTED

The race, founded in 1995 by Thom Gilligan, a marathoner from Boston, takes place every other February on King George Island, about 2,000 miles from the South Pole. King George is known as the "capital" of the continent because of the nine international research stations strung along its 12-mile network of primitive roads. Some 600 scientists and support workers live here in the summer conducting meteorological and wildlife studies. About half that number stay through the winter, when temperatures can drop to 40 below zero.

The Russian base, a jumble of weathered prefab structures on five-foot stilts, was the race's staging area. With morning mist still hanging low, 212 runners—140 men and 72 women—charged into the ankle-deep mud to the scattered applause of race organizers and base workers. The participants, ranging in age from 18 to 71 years old and hailing from

Antarctica "was tough but a warm-up to my next marathon—at the North Pole," said Kate Charles (right), who has run marathons on every continent.

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CRYSTAL CRUISES

15 countries, were competitive runners as well as casual joggers. Jay Foonberg, a 70-year-old runner from Beverly Hills, said all of them possessed the "three D's": desire, discipline and dementia: "You've got to be crazy to do it."

I'd done most of my training on a treadmill in my basement in suburban New York. While doing so, I watched "The Last Place on Earth," a BBC miniseries based on Roland Huntford's book about the 1911 race to the South Pole between British captain Robert Scott and Norwegian explorer Roald Amundsen. In that race, it should be noted, the guy who came in second—Scott—froze to death.

"I was defeated by global warming," Tan (left) joked. He finished half the course.

For the marathoners, this was the midpoint of a two-week tour that had started with 14 hours of flying, plus a two-day, 600-mile cruise aboard two converted Russian cold war spy ships—a total of nearly 7,000 miles (at a cost of about $5,000 per person). Why would anyone come so far to run another 26?

"When I was a little girl," said New Yorker Suzanne Bressler, 37, "I kept looking at this big white spot at the bottom of the globe. Why were there no cities there? Who lives there? Ever since, I've wanted to come to Antarctica." Dr. Rohit Vasa, a neonatal specialist from Chicago, who has run 48 marathons, says his goal is to complete a half or full marathon on all seven continents. (He has three more to go.) "In life, everyone is capable of doing more," said Vasa. "I believe in testing that."

William Tan of Singapore knows a lot about testing. Tan, a neuroscientist, contracted polio at age 2, and he was attempting, at 48, to become the first wheelchair athlete to compete in the Last Marathon. "I was so excited," he said after the race. "Then . . . boom! It was mud and it got worse and worse." With his wheels mired in muck, it took him 15 minutes just to cover the first 300 yards.

Audible groans emerged from the pack of lead runners as they hit the quagmire. Within a mile, my new silver-and-black running shoes were covered with chocolate-colored goo. At the top of the glacier, we circled a cluster of orange flags—the turnaround point. Descending in a barely controlled free fall, we soon found ourselves in a field of scree—a patch of loose rock common in Antarctica. Most of us gingerly picked our way across the slippery stretch, but Dan Powell, an Ironman triathlete from San Diego, turned his left ankle in the insidious mixture. "I'd never dropped out of a race before and I wasn't going to do it here," Powell said. It took him nearly eight hours to finish.

A predator skua bird hovered overhead, perhaps waiting for one of us to collapse.

The Antarctica course was what runners call a "double out and back," meaning we covered the same treacherous ground—two 13.1-mile loops—twice. When I passed Tan on my second loop, his scholarly mien had turned into a rictus of teeth-baring determination; his thick black gloves were shredded from pushing the studded snow tires he had mounted on his wheelchair. He had brought an ax to hack his way up the glacier, but the ice was too soft, and race officials rerouted him off the slope and into the impassable bog. "I was defeated by global warming," Tan would later joke. He completed a half marathon.

Approaching the glacier the second time, I was surprised to hear cheering. A dozen Uruguayans stood outside their base, waving their white-and-blue-striped flag and hooting wildly for each runner. Most of Antarctica's nonhumans barely acknowledged us. A Weddell seal lounged on the nearby beach. A trio of Gentoo penguins waddled across the road by the Chilean base. But an Antarctic predatory shorebird known as a skua hovered overhead, perhaps making sure no runner came near its nest. Or perhaps waiting for one of us to collapse.

Some runners were fading. Around mile 22, Annie Hotwagner was taking a break at a self-serve water stop. "I got vertigo, pounding across those rocks," she said. Hotwagner, 43, from Saugatuck, Michigan, was running to raise money for Memorial Sloan-Kettering Cancer Center in New York City. We fell into a ragged rhythm together, walking uphill, then jogging downhill. With a mile left, she insisted I leave her for the finish.

I crossed the finish line at the Russian base with as much flourish as I could muster, spreading my arms out in triumph and smiling for the camera. "Hold on! The flash isn't working," a race official yelled as the photographer adjusted his equipment. "Let's do it again."

I hesitated. Attempting to re-create your finish in, say, the New York City Marathon—where 300 runners cross the line every minute—would likely result in disqualification or a fistfight. But heck, I thought to myself, this was Antarctica; the participants are stretched out for miles. I jogged back out a few feet on the course and sprinted across the line.

Same arm spread, same forced smile. Same failure to flash.

Alas, even though I don't have an official finish-line picture, the view from the top of the glacier at the bottom of the world is framed forever in my memory. The muddy shoes, I tossed.

JOHN HANC's Racing for Recovery: Addict to Ironman *is due out in April.*

JOHN RODSTED

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high blood pressure matters more than you know.

It's always with you, even on those days you seem to feel okay. And high blood pressure can make your heart work harder than it should. That's why it's such a big deal—just ask your doctor.

You need to exercise, eat healthy, and take your TOPROL-XL—not just most days, but every day.

As long as you keep taking it, TOPROL-XL works to help you manage your blood pressure—throughout the day. And yes, that means every day.

Important information you should know about TOPROL-XL (by prescription only)

TOPROL-XL is used to treat high blood pressure. It's good to know the medicine you're taking, so talk to your doctor about high blood pressure and TOPROL-XL.

TOPROL-XL is not right for everyone, especially people who have the following health conditions.

- Extreme slowing of the heart rate (severe bradycardia)
- Sudden and severe drop in the blood pressure and blood flow through the body because the heart is not pumping normally (cardiogenic shock)
- Uncontrolled heart failure
- Slowdown of the heart's electrical signal causing a slower heart rate (specifically, second- or third-degree heart block)
- Damage to the heart's natural pacemaker that affects the heart's rhythm [unless a pacemaker device is in the body] (sick sinus syndrome)
- Any allergies to TOPROL-XL or its ingredients

It is important to take your medications every day as directed by your doctor.

Patients should not stop taking TOPROL-XL suddenly because of the possibility of serious side effects, such as chest pain or a heart attack. If your doctor decides you should stop taking TOPROL-XL, your doctor or health care provider may instruct you to slowly reduce your dose over a period of time before stopping it completely.

In some patients, TOPROL-XL should be used with caution: Those with asthma or asthma-like lung disease; taking certain calcium channel blockers; have diabetes; overactive thyroid disease; hardening or constriction of the arteries in the arms or legs; or those planning to have surgery.

Until you know how you will react to TOPROL-XL, avoid activities that require alertness.

The most common side effects reported by patients in clinical trials were tiredness, dizziness, depression, diarrhea, itching or rash, shortness of breath, and slow heart rate. If you experience any of these or other side effects, contact your doctor.

Need answers? Contact AstraZeneca

Visit TOPROL-XL.com/ad or call 877-564-6442

- **Find more information on TOPROL-XL**
- **Join Heart Horizons, a free support program with helpful tips, special offers, and information for people who take TOPROL-XL**
- **Learn how we may be able to help if you do not have prescription coverage and cannot afford your medicines**

Please see adjacent page for a brief summary of full Prescribing Information.

TAKE IT. SERIOUSLY.

TOPROL-XL®
(metoprolol succinate)
extended-release tablets

AstraZeneca

Please read this summary carefully and then ask your doctor about TOPROL-XL. Do not stop treatment without first talking with your doctor. No advertisement can provide all the information needed to determine if a drug is right for you. This advertisement does not take the place of careful discussions with your doctor. Only your doctor has the training to weigh the risks and benefits of a prescription drug.

ONCE-A-DAY

TOPROL-XL®

(metoprolol succinate) 25 mg 50 mg 100 mg 200 mg
extended-release tablets

BRIEF SUMMARY: For full Prescribing Information, see package insert.

INDICATIONS AND USAGE

Hypertension: TOPROL-XL is indicated for the treatment of hypertension. It may be used alone or in combination with other antihypertensive agents. **Angina Pectoris:** TOPROL-XL is indicated in the long-term treatment of angina pectoris. **Heart Failure:** TOPROL-XL is indicated for the treatment of stable, symptomatic (NYHA Class II or III) heart failure of ischemic, hypertensive, or cardiomyopathic origin. It was studied in patients already receiving ACE inhibitors, diuretics, and, in the majority of cases, digitalis. In this population, TOPROL-XL decreased the rate of mortality plus hospitalization, largely through a reduction in cardiovascular mortality and hospitalizations for heart failure.

CONTRAINDICATIONS

TOPROL-XL is contraindicated in severe bradycardia, heart block greater than first degree, cardiogenic shock, decompensated cardiac failure, sick sinus syndrome (unless a permanent pacemaker is in place) (see WARNINGS) and in patients who are hypersensitive to any component of this product.

WARNINGS

Ischemic Heart Disease: Following abrupt cessation of therapy with certain beta-blocking agents, exacerbations of angina pectoris and, in some cases, myocardial infarction have occurred. When discontinuing chronically administered TOPROL-XL, particularly in patients with ischemic heart disease, the dosage should be gradually reduced over a period of 1–2 weeks and the patient should be carefully monitored. If angina markedly worsens or acute coronary insufficiency develops, TOPROL-XL administration should be reinstated promptly, at least temporarily, and other measures appropriate for the management of unstable angina should be taken. Patients should be warned against interruption or discontinuation of therapy without the physician's advice. Because coronary artery disease is common and may be unrecognized, it may be prudent not to discontinue TOPROL-XL therapy abruptly even in patients treated only for hypertension.

Bronchospastic Diseases: PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD, IN GENERAL, NOT RECEIVE BETA-BLOCKERS. Because of its relative $beta_1$-selectivity, however, TOPROL-XL may be used with caution in patients with bronchospastic disease who do not respond to, or cannot tolerate, other antihypertensive treatment. Since $beta_1$-selectivity is not absolute, a $beta_2$-stimulating agent should be administered concomitantly, and the lowest possible dose of TOPROL-XL should be used (see DOSAGE AND ADMINISTRATION). ***Major Surgery:*** The necessity or desirability of withdrawing beta-blocking therapy prior to major surgery is controversial; the impaired ability of the heart to respond to reflex adrenergic stimuli may augment the risks of general anesthesia and surgical procedures. TOPROL-XL like other beta-blockers, is a competitive inhibitor of beta-receptor agonists, and its effects can be reversed by administration of such agents, eg, dobutamine or isoproterenol. However, such patients may be subject to protracted severe hypotension. Difficulty in restarting and maintaining the heart beat has also been reported with beta-blockers. ***Diabetes and Hypoglycemia:*** TOPROL-XL should be used with caution in diabetic patients if a beta-blocking agent is required. Beta-blockers may mask tachycardia occurring with hypoglycemia, but other manifestations such as dizziness and sweating may not be significantly affected. ***Thyrotoxicosis:*** Beta-adrenergic blockade may mask certain clinical signs (eg, tachycardia) of hyperthyroidism. Patients suspected of developing thyrotoxicosis should be managed carefully to avoid abrupt withdrawal of beta-blockade, which might precipitate a thyroid storm. ***Peripheral Vascular Disease:*** Beta-blockers can precipitate or aggravate symptoms of arterial insufficiency in patients with peripheral vascular disease. Caution should be exercised in such individuals. ***Calcium Channel Blockers:*** Because of significant inotropic and chronotropic effects in patients treated with beta-blockers and calcium channel blockers of the verapamil and diltiazem type, caution should be exercised in patients treated with these agents concomitantly.

PRECAUTIONS

General: TOPROL-XL should be used with caution in patients with impaired hepatic function. In patients with pheochromocytoma, an alpha-blocking agent should be initiated prior to the use of any beta-blocking agent. Worsening cardiac failure may occur during up-titration of TOPROL-XL. If such symptoms occur, diuretics should be increased and the dose of TOPROL-XL should not be advanced until clinical stability is restored (see DOSAGE AND ADMINISTRATION). It may be necessary to lower the dose of TOPROL-XL or temporarily discontinue it. Such episodes do not preclude subsequent successful titration of TOPROL-XL. **Information for Patients:** Patients should be advised to take TOPROL-XL regularly and continuously, as directed, preferably with or immediately following meals. If a dose should be missed, the patient should take only the next scheduled dose (without doubling it). Patients should not interrupt or discontinue TOPROL-XL without consulting the physician. Patients should be advised (1) to avoid operating automobiles and machinery or engaging in other tasks requiring alertness until the patient's response to therapy with TOPROL-XL has been determined; (2) to contact the physician if any difficulty in breathing occurs; (3) to inform the physician or dentist before any type of surgery that he or she is taking TOPROL-XL. Heart failure patients should be advised to consult their physician if they experience signs or symptoms of worsening heart failure such as weight gain or increasing shortness of breath. **Laboratory Tests:** Clinical laboratory findings may include elevated levels of serum transaminase, alkaline phosphatase, and lactate dehydrogenase. **Drug Interactions:** Catecholamine-depleting drugs (eg, reserpine, mono amine oxidase (MAO) inhibitors) may have an additive effect when given with beta-blocking agents. Patients treated with TOPROL-XL plus a catecholamine depletor should therefore be closely observed for evidence of hypotension or marked bradycardia, which may produce vertigo, syncope, or postural hypotension. Drugs that inhibit CYP2D6 such as quinidine, fluoxetine, paroxetine, and propafenone are likely to increase metoprolol concentration. In healthy subjects with CYP2D6 extensive metabolizer phenotype, coadministration of quinidine 100 mg and immediate release metoprolol 200 mg tripled the concentration of S-metoprolol and doubled the metoprolol elimination half-life. In four patients with cardiovascular disease, coadministration of propafenone 150 mg t.i.d. with immediate release metoprolol 50 mg t.i.d. resulted in two- to five-fold increases in the steady-state concentration of metoprolol. These increases in plasma concentration would decrease the cardioselectivity of metoprolol. Beta-blockers may exacerbate the rebound hypertension which can follow the withdrawal of clonidine. If the two drugs are coadministered, the beta blocker should be withdrawn several days before the gradual withdrawal of clonidine. If replacing clonidine by beta-blocker therapy, the introduction of beta-blockers should be delayed for several days after clonidine administration has stopped. **Carcinogenesis, Mutagenesis, Impairment of Fertility:** Long-term studies in animals have been conducted to evaluate the carcinogenic potential of metoprolol tartrate. In 2-year studies in rats at three oral dosage levels of up to 800 mg/kg/day (41 times, on a mg/m^2 basis, the daily dose of 200 mg for a 60-kg patient), there was no increase in the development of spontaneously occurring benign or malignant neoplasms of any type. The only histologic changes that appeared to be drug related were an increased incidence of generally mild focal accumulation of foamy macrophages in pulmonary alveoli and a slight increase in biliary hyperplasia. In a 21-month study in Swiss albino mice at three oral dosage levels of up to 750 mg/kg/day (18 times, on a mg/m^2 basis, the daily dose of 200 mg for a 60-kg patient), benign lung tumors (small adenomas) occurred more frequently in female mice receiving the highest dose than in untreated control animals. There was no increase in malignant or total (benign plus malignant) lung tumors, nor in the overall incidence of tumors or malignant tumors. This 21-month study was repeated in CD-1 mice, and no statistically or biologically significant differences were observed between treated and control mice of either sex for any type of tumor. All genotoxicity tests performed on metoprolol tartrate (a dominant lethal study in mice, chromosome studies in somatic cells, a *Salmonella*/mammalian-microsome mutagenicity test, and a nucleus anomaly test in somatic interphase nuclei) and metoprolol succinate (a *Salmonella*/mammalian-microsome mutagenicity test) were negative. No evidence of impaired fertility due to metoprolol tartrate was observed in a study performed in rats at doses up to 22 times, on a mg/m^2 basis, the daily dose of 200 mg in a 60-kg patient. **Pregnancy Category C:** Metoprolol tartrate has been shown to increase post-implantation loss and decrease neonatal survival in rats at doses up to 22 times, on a mg/m^2 basis, the daily dose of 200 mg in a 60-kg patient. Distribution studies in mice confirm exposure of the fetus when metoprolol tartrate is administered to the pregnant animal. These studies have revealed no evidence of impaired fertility or teratogenicity. There are no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed. **Nursing Mothers:** Metoprolol is excreted in breast milk in very small quantities. An infant consuming 1 liter of breast milk daily would receive a dose of less than 1 mg of the drug. Caution should be exercised when TOPROL-XL is administered to a nursing woman. **Pediatric Use:** Safety and effectiveness in pediatric patients have not been established. **Geriatric Use:** Clinical studies of TOPROL-XL in hypertension did not include sufficient numbers of subjects aged 65 and over to determine whether they respond differently from younger subjects. Other reported clinical experience in hypertensive patients has not identified differences in responses between elderly and younger patients. Of the 1,990 patients with heart failure randomized to TOPROL-XL in the MERIT-HF trial, 50% (990) were 65 years of age and older and 12% (238) were 75 years of age and older. There were no notable differences in efficacy or the rate of adverse events between older and younger patients. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting greater frequency of decreased hepatic, renal, or cardiac function, and of concomitant disease or other drug therapy. **Risk of Anaphylactic Reactions:** While taking beta-blockers, patients with a history of severe anaphylactic reactions to a variety of allergens may be more reactive to repeated challenge, either accidental, diagnostic, or therapeutic. Such patients may be unresponsive to the usual doses of epinephrine used to treat allergic reaction.

ADVERSE REACTIONS

Hypertension and Angina: Most adverse effects have been mild and transient. The following adverse reactions have been reported for immediate release metoprolol tartrate. *Central Nervous System:* Tiredness and dizziness have occurred in about 10 of 100 patients. Depression has been reported in about 5 of 100 patients. Mental confusion and short-term memory loss have been reported. Headache, somnolence, nightmares, and insomnia have also been reported. *Cardiovascular:* Shortness of breath and bradycardia have occurred in approximately 3 of 100 patients. Cold extremities; arterial insufficiency, usually of the Raynaud type; palpitations; congestive heart failure; peripheral edema; syncope; chest pain; and hypotension have been reported in about 1 of 100 patients (see CONTRAINDICATIONS, WARNINGS and PRECAUTIONS). *Respiratory:* Wheezing (bronchospasm) and dyspnea have been reported in about 1 of 100 patients (see WARNINGS). *Gastrointestinal:* Diarrhea has occurred in about 5 of 100 patients. Nausea, dry mouth, gastric pain, constipation, flatulence, digestive tract disorders, and heartburn have been reported in about 1 of 100 patients. *Hypersensitive Reactions:* Pruritus or rash have occurred in about 5 of 100 patients. Worsening of psoriasis has also been reported. *Miscellaneous:* Peyronie's disease has been reported in fewer than 1 of 100,000 patients. Musculoskeletal pain, blurred vision, decreased libido and tinnitus have also been reported. There have been rare reports of reversible alopecia, agranulocytosis, and dry eyes. Discontinuation of the drug should be considered if any such reaction is not otherwise explicable. The oculomucocutaneous syndrome associated with the beta-blocker practolol has not been reported with metoprolol. **Potential Adverse Reactions:** In addition, there are a variety of adverse reactions not listed above, which have been reported with other beta-adrenergic blocking agents and should be considered potential adverse reactions to TOPROL-XL. *Central Nervous System:* Reversible mental depression progressing to catatonia; an acute reversible syndrome characterized by disorientation for time and place, short-term memory loss, emotional lability, slightly clouded sensorium, and decreased performance on neuropsychometrics. *Cardiovascular:* Intensification of AV block (see CONTRAINDICATIONS). *Hematologic:* Agranulocytosis, nonthrombocytopenic purpura, thrombocytopenic purpura. *Hypersensitive Reactions:* Fever combined with aching and sore throat, laryngospasm, and respiratory distress. **Heart Failure:** In the MERIT HF study, serious adverse events and adverse events leading to discontinuation of study medication were systematically collected. In the MERIT-HF study comparing TOPROL-XL in daily doses up to 200 mg (mean dose 159 mg once-daily) (n=1990) to placebo (n=2001), 10.3% of TOPROL-XL patients discontinued for adverse events vs. 12.2% of placebo patients. The table below lists adverse events in the MERIT-HF study that occurred at an incidence of equal to or greater than 1% in the TOPROL-XL group and greater than placebo by more than 0.5%, regardless of the assessment of causality.

Adverse Events Occurring in the MERIT-HF Study at an Incidence ≥1% in the TOPROL-XL Group and Greater Than Placebo by More Than 0.5%

	TOPROL-XL N=1990 % of patients	Placebo N=2001 % of patients
Dizziness/vertigo	1.8	1.0
Bradycardia	1.5	0.4
Accident and/or injury	1.4	0.8

Other adverse events with an incidence of > 1% on TOPROL-XL and as common on placebo (within 0.5%) included myocardial infarction, pneumonia, cerebrovascular disorder, chest pain, dyspnea/dyspnea aggravated, syncope, coronary artery disorder, ventricular tachycardia/arrhythmia aggravated, hypotension, diabetes mellitus/diabetes mellitus aggravated, abdominal pain, and fatigue. **Post-Marketing Experience:** The following adverse reactions have been reported with TOPROL-XL in worldwide post-marketing use, regardless of causality: *Cardiovascular:* 2nd and 3rd degree heart block; *Gastrointestinal:* hepatitis, vomiting; *Hematologic:* thrombocytopenia; *Musculoskeletal:* arthralgia; *Nervous System/Psychiatric:* anxiety/nervousness, hallucinations, paresthesia; *Reproductive, male:* impotence; *Skin:* increased sweating, photosensitivity, urticaria; *Special Sense Organs:* taste disturbances.

OVERDOSAGE

Acute Toxicity: There have been a few reports of overdosage with TOPROL-XL and no specific overdosage information was obtained with this drug, with the exception of animal toxicology data. However, since TOPROL-XL (metoprolol succinate salt) contains the same active moiety, metoprolol, as conventional metoprolol tablets (metoprolol tartrate salt), the recommendations on overdosage for metoprolol conventional tablets are applicable to TOPROL-XL. **Signs and Symptoms:** Overdosage of TOPROL-XL may lead to severe hypotension, sinus bradycardia, atrioventricular block, heart failure, cardiogenic shock, cardiac arrest, bronchospasm, impairment of consciousness/coma, nausea, vomiting, and cyanosis. **Treatment:** In general, patients with acute or recent myocardial infarction or congestive heart failure may be more hemodynamically unstable than other patients and should be treated accordingly. When possible the patient should be treated under intensive care conditions. On the basis of the pharmacologic actions of metoprolol, the following general measures should be employed: ***Elimination of the Drug:*** Gastric lavage should be performed. ***Bradycardia:*** Atropine should be administered. If there is no response to vagal blockade, isoproterenol should be administered cautiously. ***Hypotension:*** A vasopressor should be administered, eg, levarterenol or dopamine. ***Bronchospasm:*** A $beta_2$-stimulating agent and/or a theophylline derivative should be administered. ***Cardiac Failure:*** A digitalis glycoside and diuretics should be administered. In shock resulting from inadequate cardiac contractility, administration of dobutamine, isoproterenol, or glucagon may be considered.

DOSAGE AND ADMINISTRATION

TOPROL-XL is an extended release tablet intended for once daily administration. For treatment of hypertension and angina, when switching from immediate release metoprolol to TOPROL-XL, the same total daily dose of TOPROL-XL should be used. Dosages of TOPROL-XL should be individualized and titration may be needed in some patients. TOPROL-XL tablets are scored and can be divided; however, the whole or half tablet should be swallowed whole and not chewed or crushed. **Hypertension:** The usual initial dosage is 25 to 100 mg daily in a single dose, whether used alone or added to a diuretic. The dosage may be increased at weekly (or longer) intervals until optimum blood pressure reduction is achieved. In general, the maximum effect of any given dosage level will be apparent after 1 week of therapy. Dosages above 400 mg per day have not been studied. **Angina Pectoris:** The dosage of TOPROL-XL should be individualized. The usual initial dosage is 100 mg daily, given in a single dose. The dosage may be gradually increased at weekly intervals until optimum clinical response has been obtained or there is a pronounced slowing of the heart rate. Dosages above 400 mg per day have not been studied. If treatment is to be discontinued, the dosage should be reduced gradually over a period of 1–2 weeks (see WARNINGS). **Heart Failure:** Dosage must be individualized and closely monitored during up-titration. Prior to initiation of TOPROL-XL, the dosing of diuretics, ACE inhibitors, and digitalis (if used) should be stabilized. The recommended starting dose of TOPROL-XL is 25 mg once daily for two weeks in patients with NYHA class II heart failure and 12.5 mg once daily in patients with more severe heart failure. The dose should then be doubled every two weeks to the highest dosage level tolerated by the patient or up to 200 mg of TOPROL-XL. If transient worsening of heart failure occurs, it may be treated with increased doses of diuretics, and it may also be necessary to lower the dose of TOPROL-XL or temporarily discontinue it. The dose of TOPROL-XL should not be increased until symptoms of worsening heart failure have been stabilized. Initial difficulty with titration should not preclude later attempts to introduce TOPROL-XL. If heart failure patients experience symptomatic bradycardia, the dose of TOPROL-XL should be reduced.

HOW SUPPLIED

Tablets containing metoprolol succinate equivalent to the indicated weight of metoprolol tartrate, USP, are white, biconvex, film-coated, and scored.

Tablet	Shape	Engraving	Bottle of 100 NDC 0186-	Unit Dose Packages of 100 NDC 0186-
25 mg*	Oval	A B	1088-05	1088-39
50 mg	Round	A mo	1090-05	1090-39
100 mg	Round	A ms	1092-05	1092-39
200 mg	Oval	A my	1094-05	N/A

*The 25-mg tablet is scored on both sides.

Store at 25°C (77°F). Excursions permitted to 15-30°C (59-86°F). (See USP Controlled Room Temperature.)

NOTE: This summary provides important information about TOPROL-XL. For more information, please ask your doctor or health care professional about the full Prescribing Information and discuss it with them.

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Manufactured for: AstraZeneca LP
Wilmington, DE 19850

By: AstraZeneca AB
S-151 85 Södertälje, Sweden

Made in Sweden

30015-01
Rev 02/05 234770

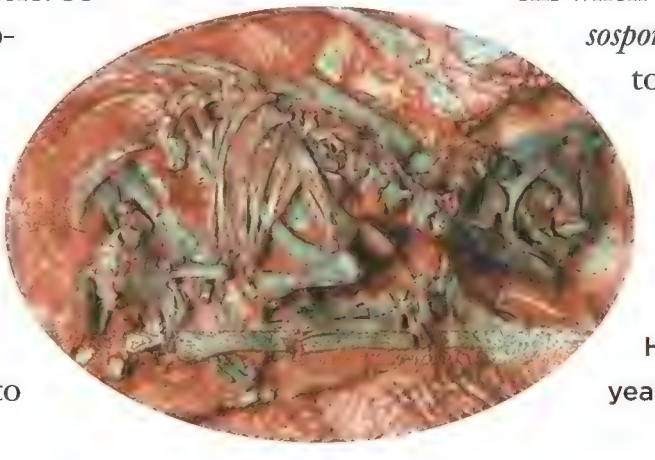
AstraZeneca

THE MAKING OF A PREHISTORIC GIANT

A SCIENTIST CRACKS OPEN A FORGOTTEN DINOSAUR EGG, FUELING AN ARGUMENT OVER THE EVOLUTION OF THE MASSIVE SAUROPODS

SAUROPODS, the enormous dinosaurs that were the largest animals ever to walk the earth, may have been nothing more than overgrown toddlers. So says Hans Sues, a Smithsonian paleontologist who has analyzed 190-million-year-old dinosaur eggs—the oldest from a vertebrate animal ever discovered.

The eggs were unearthed in South Africa in 1978 by the fossil hunter James Kitching. He didn't know what type of dinosaur they came from, but he speculated that the fossil embryos might be those of *Massospondylus*, a 15- to 20-foot-long bipedal, plant-eating dinosaur that lived in the middle Jurassic period, 187 million to 163 million years ago. Few paid attention to Kitching's idea, because the eggshells didn't look like other dinosaur eggs. But Sues (pronounced like the Dr. Seuss of kid-lit fame) and his colleagues recently renewed interest in the long-neglected fossils when they began studying *Massospondylus* in South Africa and took Kitching's samples to a University of Toronto lab. A technician painstakingly



Hans Sues (above, at the National Museum of Natural History) revisited a 190 million-year-old dinosaur embryo (left).

BRENDAN SMIALOWSKI; DIANE SCOTT / UNIVERSITY OF TORONTO, MISSISSAUGA

The sauropod (far left), at 170 feet, dwarfed the 15-foot-long *Massospondylus.*

removed surrounding rock and fossilized shell and exposed one of the six-inch-long fossil embryos, and Sues and his colleagues confirmed that it was in fact *Massospondylus.*

The embryos are so well preserved, Sues says, that they have yielded remarkable insights into dinosaur biology and behavior. For instance, they are the oldest evidence for caregiving among dinosaurs; the animals' undeveloped teeth suggest that *Massospondylus* hatchlings needed help being fed. But even more intriguing, Sues says, is how the fossils figure into dinosaur evolution.

Paleontologists say that over tens of millions of years, sauropods evolved from mid-size bipeds to gargantuan quadrupeds, such as *Seismosaurus*, (above), which grew up to 170 feet long. Now, Sues and others speculate that they know what evolutionary mechanism allowed these dinosaurs to stand on four legs: later species of sauropods somehow suppressed the genetic ability to develop adult traits such as bipedalism, and instead evolved into enormous versions of their immature selves.

What do the newly analyzed *Massospondylus* embryos have to do with sauropod evolution? *Massospondylus* hatchlings looked an awful lot like tiny quadrupedal sauropods; they had oversize heads, long necks and short tails, and they probably walked on four legs for two or three years before becoming upright. Scientists have a name for it when an adult animal has some of the physical features of an ancestor's baby. They call the phenomenon paedomorphosis, a Greek and Latin word for "child form." Advocates say there is evidence of paedomorphosis in everyday life. Take the domestic dog and its ancestor, the wolf: adult dogs have short snouts and other facial structures that are more reminiscent of wolf pups than wolf adults.

Sues' new research "could change our thinking of how four-footedness came about in sauropods," says Matt Lamanna, assistant curator at the Carnegie Museum of Natural History in Pittsburgh. But Kristi Curry Rogers, a sauropod expert and a curator at the Science Museum of Minnesota, believes that *Massospondylus* and sauropods branched off in separate directions as they evolved, so paedomorphosis could not explain the sauropods' four-footed stature. Still, Rogers is intrigued by the potential for the fossils to yield clues to *Massospondylus* behaviors.

Sues says he plans to return to South Africa to study *Massospondylus* nest sites and the remnants of an ancient flood plain ecosystem where these peculiar hatchlings lived. Although there's still much unknown about *Massospondylus*, Sues says one thing seems clear: the big-eyed babies were "probably very cute."

—CHRISTINE DELL'AMORE

JOE TUCCIARONE; GABRIEL LIO / UNIVERSITY OF TORONTO, MISSISSAUGA; ALVIN LANGDON COBURN / CHARLES LANG FREER PAPERS, GIFT OF THE ESTATE OF CHARLES LANG FREER / FREER GALLERY OF ART AND ARTHUR M. SACKLER GALLERY ARCHIVES, SMITHSONIAN INSTITUTION

FROM THE ATTIC

DOWN ON HIS KNEES Detroit railroad car manufacturer Charles Lang Freer, 100 years ago this month, sold the Smithsonian Institution his art collection—2,250 items, more than half of them by the expatriate artist James McNeill Whistler—for $1. Freer (above, examining an Asian scroll in 1909) also donated $1 million for a fireproof building to house the artworks. It was one of the first art collections bequeathed to the nation, but the deal took two years to negotiate and nearly soured because of strings Freer attached. No works, he stipulated, could ever leave the building, and nothing could be added to or removed from the collection. "I regard my collections as constituting a harmonious whole," he said. Just as Freer began to despair that the Smithsonian would ever accept the gift, the White House stepped in. President Theodore Roosevelt, after reportedly banging his fist on his desk, declared in December 1905 that the collection was "priceless," and urged acceptance. The Smithsonian complied. Freer died in 1919, and his will did permit additions to the Asian collections, after all. Today, the Freer Gallery of Art's collection is triple the size of the original bequest. *—BETH PY-LIEBERMAN*

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Royal Revival

While visiting China's Forbidden City, a Smithsonian conservator saw the writing on the wall

Researchers found 18th-century scrawls (below) while inspecting the Lodge of Retirement (above, an extreme wide-angle view of a mural and the emperor's seat).

IN THE SUMMER OF 2005, two conservation experts were crawling in the upper levels of a building in the Forbidden City in Beijing when they came across something unusual: a wooden column covered in writing. Liu Chang, a Chinese conservation architect, and Marion Mecklenburg, a Smithsonian research scientist, realized that a Chinese craftsman must have drawn the characters when the building was constructed, in the 1770s. That was about four centuries after the Forbidden City, so named because it excluded commoners, was built as an imperial residence.

The writing—"Nine bay building, 3rd axis from the West, Rear Inner Column"—served as instructions for an opulent mansion, Emperor Qianlong's Lodge of Retirement. The finding astonished Chang, because such craftsmen usually sanded their notes to avoid giving away architectural secrets. Chang quips that they were lucky to encounter "craftsmen of an open mind."

The discovery was a highlight for both Mecklenburg, who visited the palace on a trip organized by Robert Koestler, director of the Smithsonian Center for Materials Research and Education, and Chang. Their work is part of an unprecedented World Monument Fund effort to team scientists from the Palace Museum, which oversees the Forbidden City, and the Smithsonian to restore the site in time for the Beijing 2008 Summer Olympics.

Nearly a million craftspeople and laborers assembled the 9,000-room Forbidden City from 1406 to 1420. In 1912, following the Chinese Revolution, Yuan Shih-k'ai became president, replacing the Ch'ing dynasty with a republic. After three decades of political turmoil, Mao Zedong's Chinese Communist Party came to power in 1949, establishing the People's Republic of China. Only then could the public finally visit the Forbidden City.

The Lodge of Retirement's structure, including the interior theater pavilion and four-courtyard garden, is still sound, but many of the lodge's interior decorations—huge, Western European-style *trompe l'oeil* paintings, white jade cartouches and silk, sandalwood-framed panels—are in disrepair. Mary Ballard, a Smithsonian textile conservator, suggested that her Chinese counterparts use ethanol to clean objects, since it can be easily extracted from a common drink: vodka.

Ballard also notes that the high humidity, grand historic buildings and crowds of summer tourists made a trip to the Forbidden City seem like being on the National Mall in July.

—*CHRISTINE DELL'AMORE*

HURRY IN

Rarely seen works from the world's largest private collection of contemporary African art, belonging to Swiss entrepreneur Jean Pigozzi, are on view at the National Museum of African Art. "A feast for the eyes," one critic says. The show closes February 26.

Congolese artist Moke portrays the neighbors in *Dandies,* 2001.

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TITO DUPRET / WORLD MONUMENTS FUND; LIU CHANG / TSINGHUA UNIVERSITY / WORLD MONUMENTS FUND; MOKE, DANDIES (SAPEURS), 2001, JEAN PIGOZZI COLLECTION / NATIONAL MUSEUM OF AFRICAN ART, S.I.

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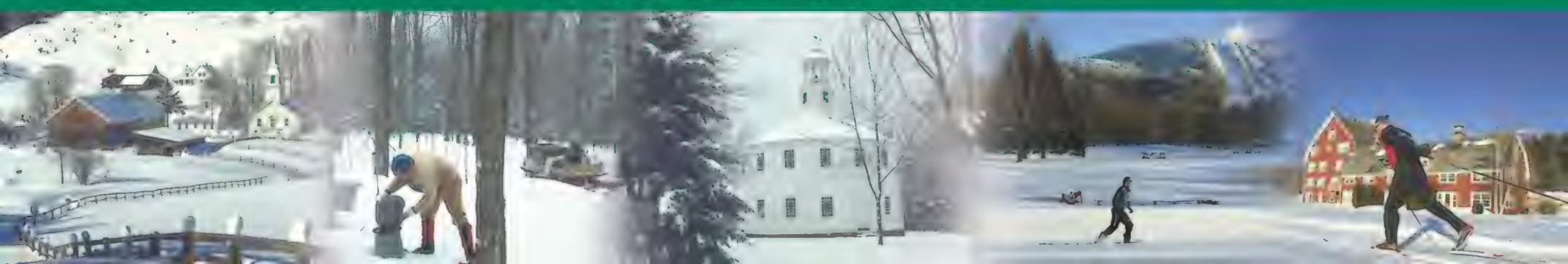


THIS MONTH IN HISTORY

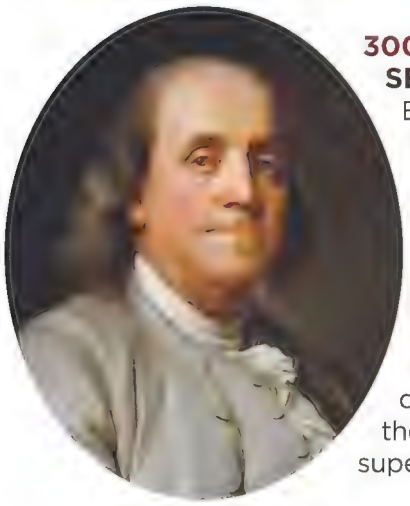
JANUARY ANNIVERSARIES—MOMENTOUS OR MERELY MEMORABLE

25 YEARS AGO: HOME AT LAST

Fifty-two hostages are set free by Iran on January 20, 1981, 444 days after their capture at the U.S. Embassy in Tehran by an armed mob demanding that the United States return the ousted shah to Iran. David Roeder's (left, arms raised) first words to his wife after his release were "It's over!" In 2001, the embassy opened as a tourist attraction. Its cafeteria sells soft drinks in cups that carry the slogan "Down with America."

45 YEARS AGO: ROCKET CHIMP

Going where no primate had gone before, Ham the chimp blasts into outer space for a 16-minute rocket ride on January 31, 1961. Despite the difficulties—the ride was longer and faster than intended—the mission is declared a success, paving the way for America's first manned spaceflight some three months later. In 1963, Ham retires from NASA and settles into a simpler life at Washington's National Zoo. The world's first "chimponaut" dies in 1983 at the North Carolina Zoological Park.



300 YEARS AGO: SEXIEST SEPTUAGENARIAN ALIVE

Benjamin Franklin is born in Boston, January 17, 1706. Scientist, economist, inventor, abolitionist, publisher, poet, the words to describe Franklin are numerous, but the title of celebrity probably describes him best. "His reputation is greater than that of Newton, Frederick the Great or Voltaire," says John Adams. Franklin, during his days in France (1776-85), writes of his fame to his daughter: "Your father's face is now as well known as the man in the moon." America's first international superstar dies in Philadelphia in 1790 at the age of 84.

30 YEARS AGO: CATCH ME IF YOU CAN

Flying faster than a speeding bullet and at more than twice the speed of sound, the Concorde enters commercial service on January 21, 1976, in Europe. A transatlantic flight between London and New York on the world's first supersonic airliner takes about three hours. In October 2003, the Concorde flies into history, having carried more than 2.5 million passengers across the skies.

250 YEARS AGO: MAGIC FINGERS

Wolfgang Amadeus Mozart is born in Salzburg on January 27, 1756. A musical prodigy, he begins composing at the age of 5 and plays for the Austrian empress when he is 6. The wunderkind goes on tour and by the age of 12 is producing such works as the German operetta *Bastien und Bastienne*. Though criticized by some—"Too many notes," complains Emperor Joseph II—he is also widely praised. Composer Joseph Haydn declares Mozart "the greatest composer known." Mozart dies in Vienna in 1791 of rheumatic fever at the age of 35.

—CHAI WOODHAM

115 YEARS AGO: ROYAL TREATMENT

On January 29, 1891, Lydia Paki Liliuokalani is made queen of the Hawaiian Islands after the death of her brother King Kalakaua. Her rule does not last for long. American businessman Sanford Dole, backed by the U.S. Marines, deposes the queen two years later. In 1900, the Republic of Hawaii is organized into a U.S. territory. Liliuokalani spends the rest of her days petitioning the federal government for compensation for seized land and other losses to no avail. She dies at her Honolulu estate in 1917 at the age of 79.

AP / WIDE WORLD PHOTOS; BETTMANN / CORBIS; DAVE CAULKIN / AP / WIDE WORLD PHOTOS; GRANGER COLLECTION (2); JOSEPH SIFFRED DUPLESSIS, C. 1785 / NATIONAL PORTRAIT GALLERY, S.I. / ART RESOURCE

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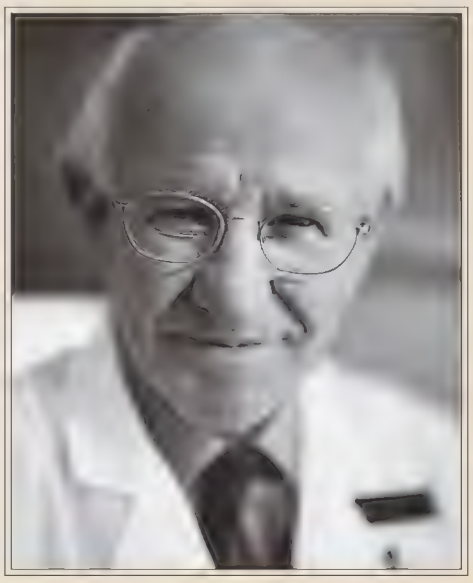

THE FLU HUNTER

FOR YEARS, ROBERT WEBSTER HAS BEEN WARNING OF A GLOBAL INFLUENZA OUTBREAK. NOW GOVERNMENTS WORLDWIDE ARE FINALLY LISTENING TO HIM

BY MICHAEL ROSENWALD

The H5N1 strain of avian flu that first surfaced in Asia (a worker in Bali in 2004 with birds killed by the virus) "may be the greatest bioterror threat of all," Robert Webster (opposite) and a co-worker warned in 2003. "We must be prepared."

JOHN STANMEYER / VII; P. 36 BRIAN VELENCHENKO; BACKGROUND: JONATHAN BLAIR / CORBIS

Robert Webster was in the backyard of his home in Memphis doing some landscaping. This was in the early winter of 1997, a Saturday. He was mixing compost, a chore he finds enchanting. He grew up on a farm in New Zealand, where his family raised ducks called Khaki Campbells. Nothing pleases him more than mucking around in the earth. He grows his own corn, then picks it himself. Some of his friends call him Farmer Webster, and although he is one of the world's most noted virologists, he finds the moniker distinguishing. He was going about his mixing when his wife, Marjorie, poked her head out the back door and said, "Rob, Nancy Cox is on the phone." Cox is the chief of the influenza division at the Centers for Disease Control and Prevention, in Atlanta. Webster went to the phone. He has a deep voice and a thick accent, which people sometimes confuse with pomposity. "Hello, Nancy," he said.

Cox sounded distressed. She told him there had been a frightening development in Hong Kong—more cases, and another death.

Oh my God, Webster recalls thinking. *This is happening. It's really happening this time.*

SOME MONTHS BEFORE, a 3-year-old boy in Hong Kong had developed a fever, a sore throat and a cough. The flu, his parents thought. But the boy grew sicker. Respiratory arrest set in, and he died. The case alarmed doctors. They could not recall seeing such a nasty case of the flu, particularly in a child so young. They sent off samples of his lung fluid for testing, and the results showed that he did indeed have the flu, but it was a strain that had previously appeared only in birds. H5N1, it's called. Webster is the world's preeminent expert on avian influenza, and it was only a matter of time before the test results made their way to him. But he was not yet troubled. He thought there must have been some sort of contamination in the lab. H5N1 had never crossed over into humans. Had to be a mistake, he thought.

That was until Cox interrupted his gardening to tell him about the new cases.

It immediately occurred to Webster that he should be on an airplane. "I had to go into the markets," he told me recently. "I had to get into the markets as fast I could." He meant the poultry markets, where chickens are bought and sold by the hundreds of thousands. The little boy who died a few months before had been around some chickens, as have

From 1997 to mid-November 2005, 126 people, all in Asia, contracted the H5N1 avian flu, and 64 died (left, the mother of flu victim Virat Phrapong, 7, at his funeral near Bangkok in 2004). Officials say the victims acquired the virus by direct contact with infected poultry (workers at a poultry market in Shanghai in 2005).

AVENTURIER PATRICK / GAMMA PRESSE

most little boys in that part of the world, where families often live side by side with their chickens, pigs, ducks and dogs. If H5N1 was, in fact, in the markets, as Webster suspected, that was the beginning of his worst-case scenario: the virus could mutate in the chickens and perhaps other animals, and then acquire the know-how to pass from person to person, possibly initiating a pandemic that, he thought, might kill as many as 20 million people.

Webster has been predicting and preparing for such an event for his entire career as a scientist. His lab at St. Jude Children's Research Hospital in Memphis is the world's only laboratory that studies the human-animal interface of influenza. It was Webster who discovered that birds were likely responsible for past flu pandemics, including the one in Asia in 1957 that killed about two million people. He has spent a good part of his life collecting bird droppings and testing them for signs of influenza. Some of that collecting has taken place while he and his family were on vacation. One evening in Cape May, New Jersey, his school-age granddaughter ran toward him on the way to dinner saying that she had discovered some poop for him. He was so pleased.

A couple of days after Cox's phone call, Webster stepped off a plane in Hong Kong. He stopped at the University of Hong Kong to drum up some help to sample chicken droppings in the market. He also phoned his lab in Memphis and some scientists in Japan whom he had trained. He told them to pack their bags.

MICHAEL ROSENWALD is a staff writer for the Washington Post. *This is his first article for* SMITHSONIAN.

CHINA NEWSPHOTO / REUTERS

It occurred to Webster that there was a problem. The problem was H5N1. Neither he nor any members of his staff had ever been exposed to the virus strain, meaning they did not have any antibodies to it, meaning they had no defense against it. If they became infected, they would likely meet the same fate as the little boy who died.

They needed a vaccine. Four decades before, Webster had helped create the first widespread commercial flu vaccine. Until he came along, flu vaccines were given whole—the entire virus was inactivated and then injected. This caused numerous side effects, some of which were worse than the flu. Webster and his colleagues had the idea to break up the virus with detergents, so that only the immunity-producing particles need be injected to spur an immune response. Most standard flu shots still work like this today.

Before they went to work in Hong Kong, Webster and his colleagues created a sort of crude vaccine from a sample containing the H5N1 virus. They declined to discuss the matter in detail, but they treated the sample to inactivate the virus. Webster arranged for a pathologist in Hong Kong to drip the vaccine into his nose and the noses of his staff. In theory, antibodies to the virus would soon form.

"Are you sure this is inactivated?" the pathologist said.

Webster pondered the question for a moment.

"Yes it is. I hope."

And the fluid began dripping.

"IT'S VERY IMPORTANT to do things for yourself," Webster told me recently. "Scientists these days want other people to do things for them. But I think you have to be there, to be

CHAITWAT SUBPRASOM / REUTERS / CORBIS

in the field, to see interactions." In many ways, Webster's remarkable career can be traced to a walk along an Australian beach in the 1960s, when he was a microbiology research fellow at Australian National University.

He was strolling along with his research partner Graeme Laver. Webster was in his 30s then, Laver a little older. Every 10 or 15 yards they came across a dead mutton bird that apparently had been washed up on the beach. By that time, the two men had been studying influenza for several years. They knew that in 1961, terns in South Africa had been killed by an influenza virus. Webster asked Laver: "What if the flu killed these birds?"

It was a tantalizing question. They decided to investigate further, arranging a trip to a deserted coral island off Queensland. Their boss was not entirely supportive of the adventure. "Laver is hallucinating," the boss told a colleague. They were undeterred. "Why there?" Laver once wrote of the trip. "Beautiful islands in an azure sea, hot sand, a baking sun, and warm coral lagoon. What better place to do flu research!" They snorkeled during the day. At night, they swabbed the throats of hundreds of birds. Back at their lab, they had a eureka moment: 18 birds had antibodies to a human flu virus that had circulated among people in 1957. Of course this meant only that the birds had been exposed to the virus, not that they were carrying or transmitting it.

To figure out if they were, Webster and Laver took subsequent trips to the Great Barrier Reef, Phillip Island and Tryon Island. More swimming during the day, sherry parties at dusk, and then a few hours of swabbing birds. They took the material back to their lab at Australian National University, in Canberra. It is standard procedure to grow flu viruses in chicken eggs. So they injected the material from the swabs into chicken eggs, to see if the influenza virus would grow. Two days later the fluid was harvested. In most of the eggs, the virus had not grown. But in one of the eggs, it had grown. That could mean only one thing: the virus was in the birds.

Webster wanted to know more. Specifically, he wanted to know whether birds might have played a role in the influenza pandemic of 1957. He traveled to the World Influenza Center, in London, which has a large collection of influenza virus strains from birds and also antibody samples from flu victims. His experiment there was rather simple. He gathered antibody samples from victims of the 1957 flu pandemic. He also gathered samples of several avian flu strains. Then he mixed the samples. What did the antibodies do? They attacked the bird flu strains, meaning the human flu virus had some of the same molecular features as avian flu viruses.

How could that be? The answer is something now known as reassortment. The influenza virus, whether it's carried by birds or humans, has ten genes, which are arranged on eight separate gene segments. When two different influenza viruses infect the same cell, their genes may become reassorted—shuffled, mixed up. The net effect is that a new strain of flu virus forms, one that people have never been exposed to before.

ST. JUDE CHILDREN'S RESEARCH HOSPITAL COLLECTION

Ducks are like the "Trojan horse," Webster says, because they carry flu viruses without succumbing to them. But H5N1 virus, significantly, is blamed for waterfowl deaths (a veterinarian at a duck farm north of Bangkok in 2004). Webster (right, with a co-worker in Hong Kong on the day in 1997 officials ordered the killing of 1.5 million birds to stem an epidemic) has found more than 10,000 different viruses in ducks and shorebirds.

Webster refers to the mixing process as "virus sex." Perhaps Webster's greatest contribution to science is the idea that pandemics begin when avian and human flu viruses combine to form a new strain, one that people lack the ability to fight off.

AFTER HE ENTERED the Hong Kong poultry markets, Webster needed only a few days to turn up enough chicken droppings to show that the H5N1 strain was indeed circulating. Along with many of his colleagues, he recommended that all the chickens in the market area be killed, to prevent spread of the virus. About 1.5 million chickens in Hong Kong met their maker. And that seemed to do the trick. The virus was gone.

But Webster had a hunch it would be back. The reason was ducks. Webster thinks the most dangerous animal in the world is the duck. His research has shown that ducks can transmit flu viruses quite easily to chickens. But while chickens that come down with bird flu die at rates approaching 100 percent, many ducks don't get sick at all. So they fly off to other parts of the world carrying the virus. "The duck is the Trojan horse," Webster says.

After the chickens in Hong Kong were killed, wild ducks probably relocated the virus to other parts of Asia, where it continued to infect chickens and shuffle its genetic makeup. When the strain emerged from hiding again, in Thailand and Vietnam in late 2003, it was even stronger. The virus passed directly from birds to people, killing dozens in what the World Health Organization has described as the worst outbreak of purely avian influenza ever to strike human beings.

NATIONAL MUSEUM OF HEALTH AND MEDICINE, ARMED FORCES INSTITUTE OF PATHOLOGY, WASHINGTON, D C. COLLECTION, NCP1603

"Never before had there been a catastrophe at once so sudden, so devastating and so universal," *Science* magazine reported at the time of the 1918-1919 flu pandemic (an Army ward in Kansas in 1918). Health officials worldwide are taking steps to keep H5N1 virus from fueling a similar outbreak.

A CENTURY OF INFLUENZA

1889-90: Influenza spreads from Central Asia to Russia, Europe and North America. The so-called "Russian flu" kills roughly one million people.

1918-1919: At least 40 million die of the "Spanish flu," the most deadly disease episode in history.

1925

1934: Microbiologist Thomas Francis Jr. confirms identification of the influenza virus.

1941: Francis and Jonas Salk develop a flu vaccine, used during World War II.

1950

1955: Avian flu is shown to be caused by the most virulent of the three forms of the virus, Influenza A.

1957: A pandemic of "Hong Kong flu" kills more than two million people worldwide.

1968: An influenza pandemic kills about one million. Many deaths are blamed on an inadequate supply of vaccine.

1975

1997: A highly pathogenic avian influenza virus, called H5N1, is discovered in Hong Kong. Authorities slaughter 1.5 million area poultry to prevent an epidemic.

2003: H5N1 virus influenza surfaces at a few chicken farms near Seoul, South Korea.

2000

2004: H5N1 virus is transmitted from birds to people in Thailand and Vietnam, killing dozens.

2005: In August, U.S. officials say an experimental vaccine for one strain of the H5N1 virus shows promise for preventing infection.

2005: In October, U.S. scientists report that the H5N1 virus shares features with the virus that caused the 1918 pandemic.

2005: In November, President Bush announces a pandemic flu plan, requesting $7.1 billion for vaccine development, drug stockpiling, surveillance and other measures.

Also, H5N1 virus surfaces in several locations in China, killing at least three people, though some say hundreds died.

CULVER PICTURES / ART ARCHIVE; BENTLEY HISTORICAL LIBRARY IMAGE BANK / UNIVERSITY OF MICHIGAN; WALTER SANDERS / TIME LIFE PICTURES / GETTY IMAGES; LEE JAE-WON / REUTERS / CORBIS; SUKREE SUKPLANG / REUTERS; RON EDMONDS / AP / WIDE WORLD PHOTOS

WEBSTER SAYS the world is teetering on the edge of a knife blade. He thinks that H5N1 poses the most serious public health threat since the Spanish flu pandemic of 1918, which killed an estimated 40 million to 100 million people worldwide. Though the H5N1 strain has so far shown no signs that it will acquire the ability to transmit easily from person to person—all evidence is that flu victims in Vietnam and Thailand acquired the virus from direct contact with infected poultry—that has provided Webster no comfort. It's only a matter of time before this virus, as he puts it, "goes off." He has been saying this for several years. The world is finally taking notice. Elaborate plans are now being created in dozens of countries to deal with a pandemic. In November, President Bush requested that $7.1 billion be set aside to prepare for one, with hundreds of millions of dollars to be spent on further developing a new vaccine that was recently hatched in Webster's lab.

Webster has been advising federal health officials every step of the way. He does so out of fear of this virus and also because it is his job. When the H5N1 strain emerged in the late 1990s, the National Institute of Allergy and Infectious Diseases awarded Webster a major contract to establish a surveillance center in Hong Kong, to determine the molecular basis of transmission of avian flu viruses and isolate strains that would be suitable to develop vaccines. "He's certainly one of those people in this field who have been way ahead of the curve in bringing attention to this issue," Anthony Fauci, the institute's director, told me. "He was out ahead of the pack. He's one of the handful of people who have not only been sounding the alarm, but working to prevent this thing from turning into something that nobody wants to see happen."

Webster's job keeps him out of the country two to three weeks a month. Back in Memphis, his lab analyzes samples of influenza virus strains from around the world, to see how they are mutating. Recently, health officials have reported finding H5N1 avian flu in birds in Turkey, Romania, Croatia and Kuwait. It has not yet been found in birds in North America. If H5N1 makes its way here, Webster will likely be among the first to know.

THIS PAST JUNE, I caught up with Webster at a meeting of the American Society for Microbiology, in Atlanta, where he was scheduled to deliver a speech about the threat of bird flu. There were more than 5,000 microbiologists in attendance, which, because I am a recovering hypochondriac, I found strangely comforting. Walking around with Webster at a meeting of scientists is an experience that must be similar to walking around with Yo-Yo Ma at a meeting of cellists. When Webster walked by, people suddenly stopped speaking, a fact to which he seemed oblivious.

He opened his talk by asking a series of intriguing questions: "Will the H5N1 currently circulating in Vietnam learn to transmit, reproduce, from human to human? Why hasn't it done so already? It's had three years to learn how, and so what's

it waiting for? Why can't it finish the job? We hope it doesn't."

He paused. "Is it the pig that's missing in the story?"

Webster explained that the strain is still not capable of acquiring the final ingredient needed to fuel a pandemic: the ability to transmit from person to person. For that to happen, Webster and others believe that a version of the human flu virus, which is easily transmittable between people, and the H5N1 avian virus have to infect the same mammalian cell at the same time and have virus sex. If H5N1 picks up those genes from the human flu virus that enable it to spread from person to person, Webster says that virtually nobody will have immunity to it. If an effective vaccine based specifically on that newly emerged virus isn't quickly available, and if antiviral drugs aren't also, many deaths will ensue.

Watching Webster speak, I couldn't help thinking that animals are not always our friends. It turns out that animals are a frequent source of what ails us. University of Edinburgh researchers recently compiled a rather frightening list of 1,415 microbes that cause diseases in humans. Sixty-one percent of those microbes are carried by animals and transmitted to humans. Cats and dogs are responsible for 43 percent of those microbes, according to the Edinburgh researchers; horses, cattle, sheep, goats and pigs transmit 39 percent; rodents, 23 percent; birds, 10 percent. Primates originally transmitted AIDS to humans. Cows transmit bovine spongiform encephalopathy, or mad cow disease. In their 2004 book, *Beasts of the Earth: Animals, Humans and Disease*, the physicians E. Fuller Torrey and Robert Yolken cite evidence suggesting that a parasite transmitted by cats, *Toxoplasma gondii*, causes schizophrenia. A couple of years ago, the mon-

"The transmission of H5N1 to even just a relatively few people," Webster has said (a 3-year-old patient at a hospital in Jakarta in November 2005), "was an ominous sign that it has the potential to adapt to humans."

EDY SUSANTO / WPN

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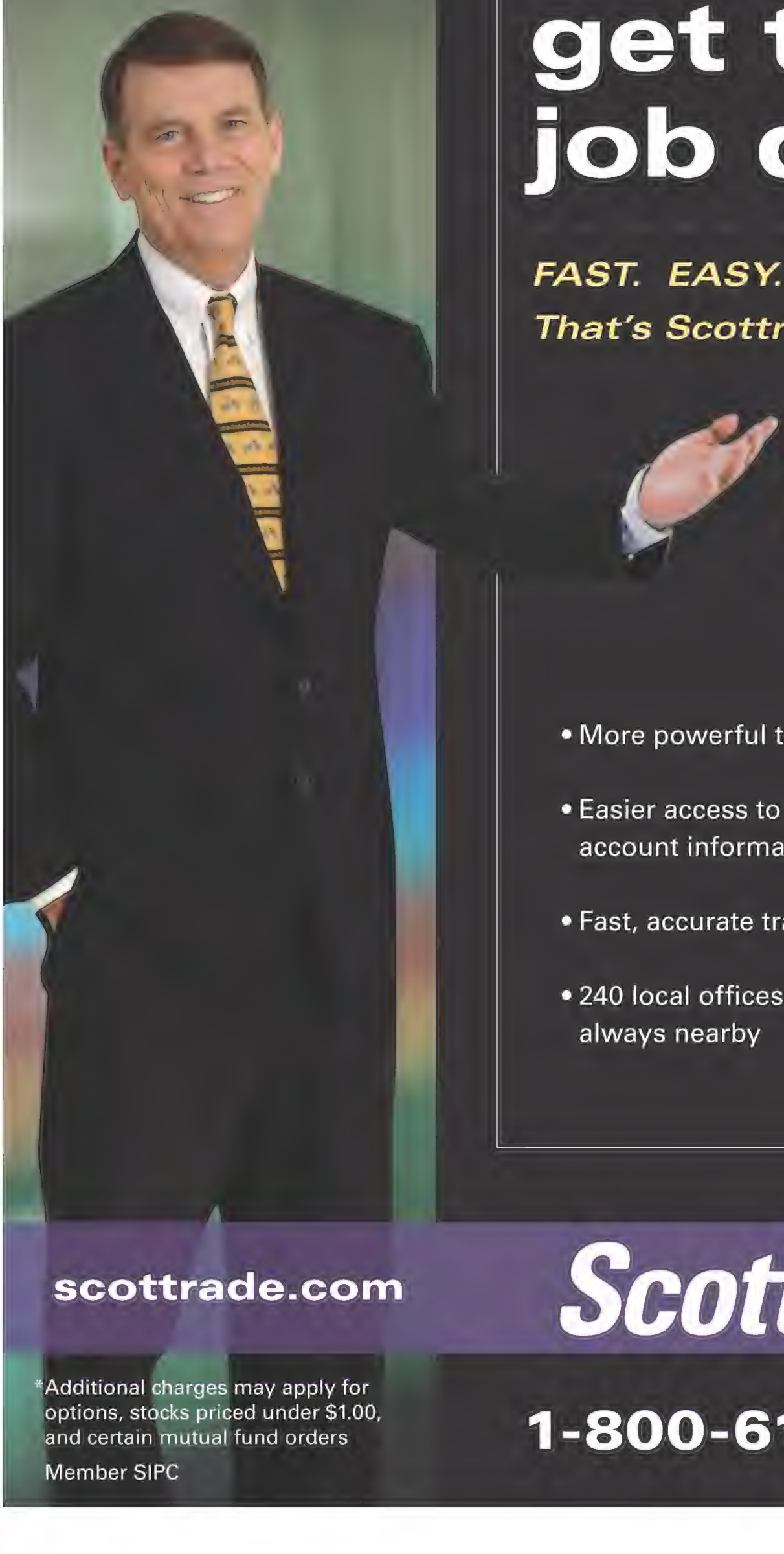

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keypox virus broke out among several people in the Midwest who had recently had close contact with pet prairie dogs.

And then there are pigs. For many years, Webster has theorized that pigs are the mixing bowls for pandemic flu outbreaks. He has actually enshrined the theory in his house. He has a stained-glass window next to his front door that depicts what he perceives to be the natural evolution of flu pandemics. At the top of the glass, birds fly. Below them, a pig grazes. Man stands off to the left. Below all of them are circles that represent viruses and seem to be in motion. They are set in a backdrop of fever red.

The pig is in the picture because its genome, perhaps surprisingly, shares certain key features with the human genome. Pigs readily catch human flu strains. Pigs are also susceptible to picking up avian flu strains, mostly because they often live so close to poultry. If a human flu strain and an avian flu strain infect a pig cell at the same time, and the two different viruses exchange genetic material inside a pig cell, it's possible that the virulent avian strain will pick up human flu virus genes that control transmission between people. If that happens with H5N1, that will almost certainly mean that the virus will be able to pass easily from person to person. A pandemic may not be far behind.

During his talk in Atlanta, Webster pointed out that this H5N1 virus was so crafty that it has already learned to infect tigers and other cats, something no avian flu has ever done. "The pig may or may not be necessary" for a pandemic to go off, Webster said. "Anyway, this virus has a chance at being successful." He said he hoped world health officials "would keep making their plans because they may face it this winter. We hope not."

Webster (in his Tennessee cornfield) is an "international treasure," says Vanderbilt microbiologist James Crowe. "He's one of the giants."

I WENT HUNTING with Webster. Hunting for corn. His cornfield is on a patch of land he owns about five miles from his home on the outskirts of Memphis. He grows genetically modified corn that he gets from Illinois. An extra gene component known for increasing sweetness has been inserted into the corn's DNA, producing some of the sweetest corn in the United States. Three of his grandchildren were with us, visiting from North Carolina. They had come, among other reasons, for Webster's annual Corn Fest, where members of the virology department at St. Jude Hospital gather in his backyard to sit around eating corn on the cob. The record for the most ears of corn eaten in one sitting at the Corn Fest is 17. The record holder is the teenage son of one of Webster's protégés. Webster reports the prize was a three-day stomachache. He encouraged me not to beat this record.

"There's a good one," Webster said, bending down to pull off an ear. He was wearing long shorts, a plaid blue shirt and a wide-brimmed canvas hat. He had been fussing around among the stalks for a few minutes before he found an ear he liked. He seemed unhappy with the quality of the corn, muttering into his chest. In between picking some ears, I asked why he was down on the crop. "I believe I planted too soon," he said. "The ground was still too damp." This caused many of the ears to bloom improperly. I asked why he had planted so early. He said, "I had to be in Asia." It occurred to me that attempting to stop a global epidemic was a reasonable excuse for a so-so batch of corn.

Webster was home this weekend for the first time in many weeks. He had been to Asia and back nearly a dozen times in the past year. I asked Marjorie Webster how often she sees him, and she replied, "Not much these days." It is a sacrifice she seems willing to make; Webster has told her plenty about the bug and what it can do.

We picked corn for about half an hour, then went back to Webster's home to do some shucking. He shucked at a pace nearly double mine. We must have shucked 250 ears of corn. We placed the shucked ears in a cooler of ice. By noon we had finished, so I decided to go do some sightseeing. Beale Street, Elvis impersonators, several barbecue joints. A little before 5 p.m., I wandered into the lobby of the Peabody Hotel, a landmark. I wanted to see the ducks. Since the 1930s, ducks have swum in a fountain in the hotel's lobby. The ducks live upstairs in a sort of duck mansion. In the morning, they ride down in an elevator. When the elevator doors open in the lobby, the ducks wobble down a red carpet, single file, about 30 yards, in front of hundreds of people who snap photographs as if they were duck *paparazzi*. When the ducks plop into the fountain, people cheer. At 5 p.m., the ducks are done for the day; they wobble back along the carpet to the elevator, then ride back to their mansion for dinner. One generally has to witness the occasion to believe it.

I wondered whether Webster had ever tested these ducks. That evening, at the corn party, after my third ear, and Webster's second, I told him that I had gone to see the ducks. "Oh, the Peabody ducks," he said, the first time I'd seen him visibly happy in days. "The kids loved the ducks when they were little." I asked whether he liked the ducks too. "Why not? I enjoy the ducks," he said. I said, "Have you ever swabbed them?" He answered: "No. Sometimes you just don't want to know. There are some ducks I won't swab."

JAELITH WEBSTER

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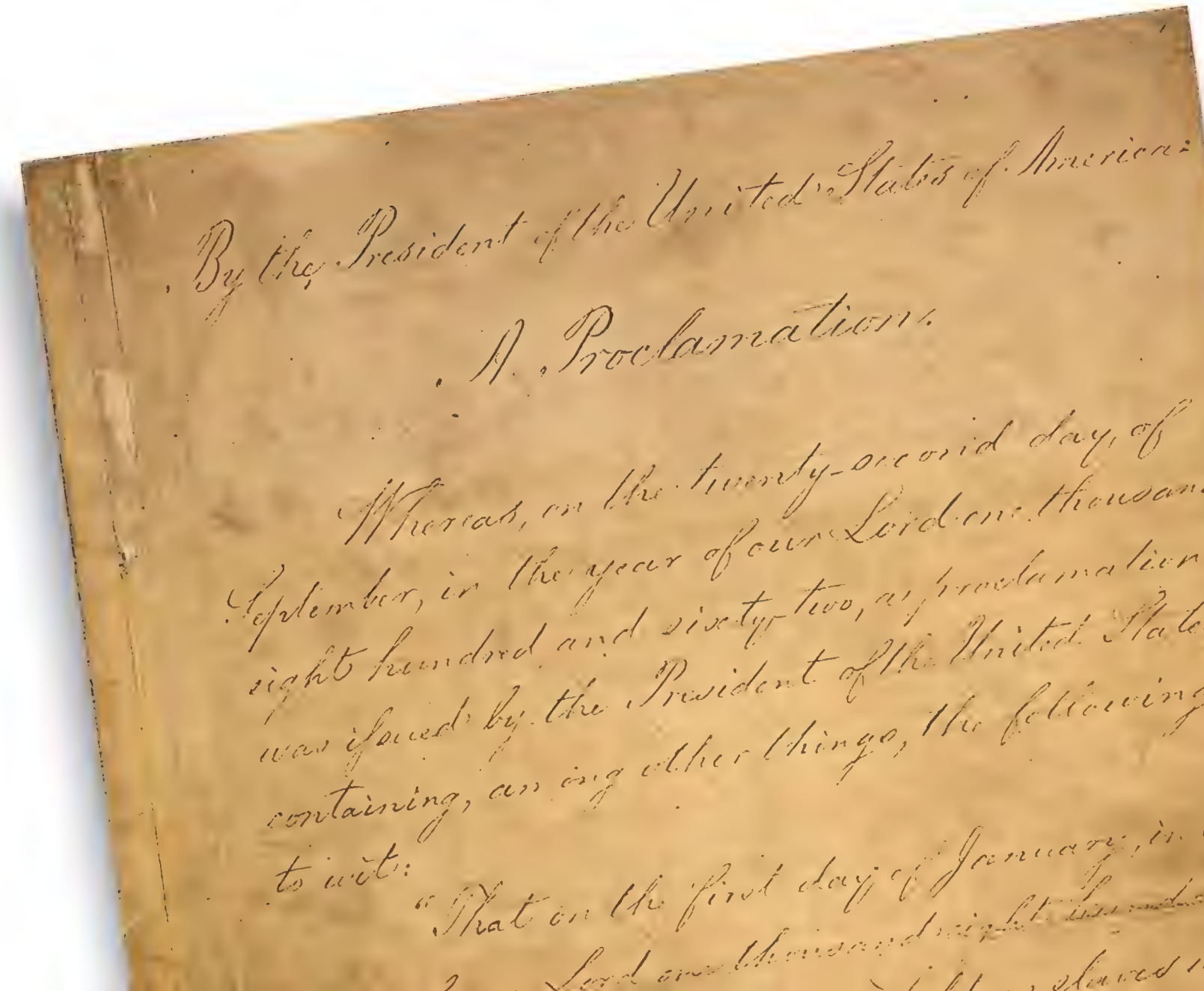
"MY WHOLE SOUL IS IN IT"

As his army faltered and his cabinet bickered,
Abraham Lincoln determined that
"we must free the slaves or be ourselves subdued."
In 1862, he finally got his chance

BY DORIS KEARNS GOODWIN


By the President of the United States of America:

A Proclamation.

Whereas, on the twenty-second day of September, in the year of our Lord one thousand eight hundred and sixty-two, a proclamation was issued by the President of the United States, containing, among other things, the following, to wit:

"That on the first day of January, in the year of our Lord one thousand eight hundred and sixty-three, all persons held as slaves within

MASSACHUSETTS HISTORICAL SOCIETY; NATIONAL ARCHIVES; P. 49 MATHEW BRADY / PICTURE HISTORY

Lincoln's impetus for issuing the Emancipation Proclamation (opposite, the pen he used to sign it) was military—not moral—necessity. But after taking pen in hand on January 1, 1863, he said: "I never, in my life, felt more certain that I was doing right, than I do in signing this paper."

WHILE WASHINGTON SWELTERED through the long, hot summer of 1862, Abraham Lincoln made the momentous decision that would define both his presidency and the course of the Civil War.

The great question of what to do about slavery had provoked increasingly bitter debates on Capitol Hill for months. Back in March, Lincoln had asked the legislature to pass a joint resolution providing federal aid to any state willing to adopt a plan for the gradual abolition of slavery; without the approval of the border-state representatives, it went nowhere.

Meanwhile, the Republican majority in Congress, freed from the domination of the Southern bloc, began to push its own agenda on slavery. In April, Congress passed a bill providing for the compensated emancipation of slaves in the District of Columbia. The bill met Lincoln's wholehearted approval, for he had "never doubted the constitutional authority of Congress to abolish slavery" in areas that fell under the jurisdiction of the federal government.

But the situation became more complex when the radical bloc in Congress began to address slavery in the seceded Southern states where it already existed and was protected by the Constitution. In July, despite the vehement protests of Democrats and conservative Republicans, the radical majority passed a new confiscation bill. Broader than the one passed the previous year, which had limited the federal government to confiscating and freeing only those fugitive slaves employed by Rebels in the field, the new act emancipated all slaves of persons engaged in rebellion, regardless of involvement in military affairs. The bill was ill considered, providing no workable means of enforcement and no procedure to determine whether the owner of a slave crossing Union lines was actually engaged in insurrection, but it passed. Before signing what would become known as the Second Confiscation Act, Lincoln obtained revisions that made it more likely to pass constitutional muster.

Within the cabinet, too, the rancor over slavery infected every discourse. The debates had grown "so bitter," according to Secretary of State William Henry Seward, that personal and even official relationships among members were ruptured, leading to "a prolonged discontinuance of Cabinet meetings." Though Tuesdays and Fridays were still designated for cabinet sessions, each secretary remained in his department unless a messenger arrived to confirm that a meeting would be held. Seward recalled that when these general discussions were still taking place, Lincoln had listened intently but had not taken "an active part in them." For Lincoln, the problem of slavery was not an abstract issue. While he concurred with the most passionate abolitionists that slavery was "a moral, a social and a political wrong," as president, he felt he could not ignore the constitutional protection of the institution where it already existed.

The Army of the Potomac's devastating reverses in the Peninsula Campaign that June made it clear that extraordinary means were necessary to save the Union—and gave Lincoln an opening to deal more directly with slavery.

Daily reports from the battlefields illuminated the innumerable uses to which slaves were put by the Confederacy. They dug trenches and built fortifications for the army. They were brought into camps to serve as teamsters, cooks and hospital attendants, so that soldiers were freed to fight. They labored on the home front, tilling fields, raising crops and picking cotton, so their masters could go to war without fearing that their families would go hungry. If the Rebels were divested of their slaves, who would then be free to join the Union forces, the North could gain a decided advantage. Seen in this light, emancipation could be considered a military necessity, a legitimate exercise of the president's constitutional war powers. The border states—Delaware, Maryland, Kentucky and

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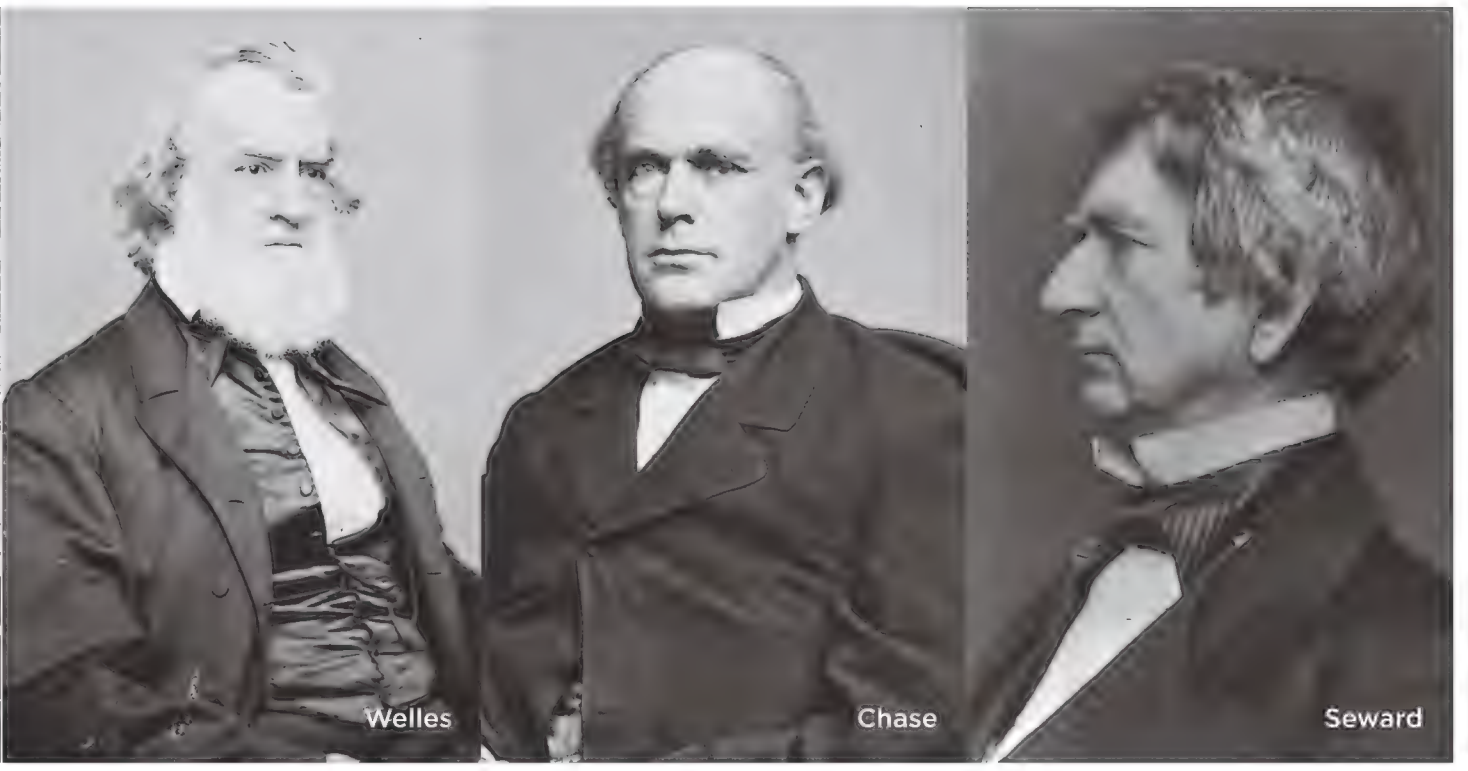

Within Lincoln's cabinet, reactions to his proposed proclamation reflected bitter divisions over slavery. From left, War Secretary Edwin Stanton and Attorney General Edward Bates favored immediate publication; Postmaster General Montgomery Blair objected that it would alienate border states, and Interior Secretary Caleb Smith considered resigning. Navy Secretary Gideon Welles, Treasury Secretary Salmon Chase and Secretary of State William Henry Seward supported it, but with various reservations.

Missouri—had refused Lincoln's idea of compensated emancipation as a voluntary first step, insisting that any such action should be initiated in the slave states. A historic decision was taking shape in Lincoln's mind.

Lincoln revealed his preliminary thinking to Seward and Secretary of the Navy Gideon Welles in the early hours of Sunday, July 13, as they rode together in the president's carriage to the funeral of the infant son of War Secretary Edwin Stanton. During the journey, Welles recorded in his diary, Lincoln informed them that he was considering "emancipating the slaves by proclamation in case the Rebels did not cease to persist in their war." He had "dwelt earnestly on the gravity, importance, and delicacy" of the subject, he said, and had "come to the conclusion that it was a military necessity absolutely essential for the salvation of the Union, that we must free the slaves or be ourselves subdued." Thus, the constitutional protection of slavery could and would be overridden by the constitutionally sanctioned war powers of the president.

This was, Welles clearly recognized, "a new departure for the President, for until this time, in all our previous interviews . . . he had been prompt and emphatic in denouncing any interference by the General Government with the subject." Seward, normally talkative, said only that the "subject involved consequences so vast and momentous that he should wish to bestow on it mature reflection before giving a decisive answer," though he was inclined to think it "justifiable."

So the matter rested until Monday morning, July 21, when messengers were dispatched across Washington with notices of a special cabinet meeting to be held at 10 a.m. "It has been so long since any consultation has been held that it struck me as a novelty," Treasury Secretary Salmon P. Chase wrote in his diary.

WHEN THE CABINET CONVENED, all members save Montgomery Blair, the postmaster general, were in attendance. For this special meeting, the cabinet was summoned to the second-floor library rather than the president's official office. There, surrounded by the curved bookshelves that Mary Todd Lincoln had recently filled with splendidly bound sets of Shakespeare and Sir Walter Scott's novels, the president began with an admission that he was "profoundly concerned at the present aspect of affairs, and had determined to take some definitive steps in respect to military action and slavery."

The members listened as Lincoln read several orders he was contemplating. One would authorize Union generals in Confederate territory to appropriate any property necessary to sustain themselves in the field; another would sanction the payment of wages to blacks brought into the army's employ. Taken together, these orders signaled a more vigorous prosecution of the war. When the discussion moved to address the possible arming of those blacks in the army's employ, Stanton and Chase were in favor. Lincoln, Chase recorded, was "not prepared to decide the question."

When the discussions ran long, the president scheduled another cabinet session the following day, July 22, to reveal his primary purpose in calling the meeting. This second session was likely held in Lincoln's office, as depicted in Francis Carpenter's famous painting, *First Reading of the Emancipation Proclamation by President Lincoln.* There, surrounded by evidence of the ever-expanding war, with battlefield maps everywhere, the previous day's conversation continued.

The desultory talk abruptly ended when Lincoln took the floor and announced he had called them together in order to read the preliminary draft of an emancipation proclamation. He understood the "differences in the Cabinet on the slavery question" and welcomed their suggestions after they heard what he had to say; but he wanted them to know that he "had resolved upon this step, and had not called them together to ask their advice." Then, removing two foolscap sheets from his pocket and adjusting his glasses on his nose, he began to read what amounted to a legal brief for emancipation based

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DORIS KEARNS GOODWIN received the Pulitzer Prize for history for a previous book, No Ordinary Time *(1995).*

on the chief executive's powers as commander in chief.

His draft proclamation set January 1, 1863, little more than five months away, as the date on which all slaves within states still in rebellion against the Union would be declared free, "thenceforward, and forever." Though it did not cover the roughly 425,000 slaves in the loyal border states—where, without the use of his war powers, no constitutional authority justified his action—the proclamation was shocking in scope. It required no cumbersome enforcement proceedings. In a single stroke, it superseded legislation on slavery and property rights that had guided policy in 11 states for nearly three quarters of a century. Three and a half million black people who had lived enslaved for generations were promised freedom. It was a daring move, Welles later said, "fraught with consequences, immediate and remote, such as human foresight could not penetrate."

The cabinet listened in silence. With the exception of Seward and Welles, the members were startled by the boldness of Lincoln's proclamation. Only Stanton and, surprisingly, Attorney General Edward Bates declared themselves in favor of "its immediate promulgation."

Stanton instantly grasped the military value of the proclamation. As for Bates, one of the more conservative members of the cabinet, the Missourian's sudden support can be traced in part to the terrible division that slavery and the war had wrought upon his family: his sons had joined opposing sides in the war, with one in the Confederate Army facing the prospect of going into battle against any of four brothers. Bates valued his family above all

For constitutional reasons, Lincoln could not halt slavery in the border states—Delaware, Maryland, Kentucky and Missouri.

else. He had long favored gradual emancipation, but if the president's proclamation could bring the war to a speedier conclusion, he would give it his "very decided approval." Bates based his approval, however, on the condition that the freed slaves would be deported to Central America or Africa. Lincoln insisted that any emigration must be voluntary.

Welles remained silent. He later admitted that the prospect of emancipation involved such unpredictable results, "carrying with it a revolution of the social, civil, and industrial habits and condition of society in all the slave States," that he was oppressed by the "solemnity and weight" of the decision. He feared that, far from shortening the war, emancipation would generate an "energy of desperation on the part of the slave-owners" and "intensify the struggle." Yet, while the "extreme exercise of war powers" troubled him, Welles loyally supported Lincoln.

Interior Secretary Caleb Smith kept silent as well, though he, too, had serious reservations. John Usher, the assistant secretary of the department, later recalled Smith telling him that if Lincoln issued the proclamation, he would "resign and go home and attack the administration."

The division of sentiment within the cabinet was manifest as Blair, Chase and Seward spoke. Arriving late, after Lincoln's announcement that he had already resolved to issue the proclamation, Blair spoke up vigorously against acting at this time and asked to file his objections. While he supported the idea of compensated, gradual emancipation linked to colonization, he feared that the president's radical proclamation would cause such an outcry among conservatives and Democrats that Republicans would lose the fall elections. More important, it would "put in jeopardy the patriotic element in the border States, already severely tried," and "would, as soon as it reached them, be likely to carry over those States to the secessionists."

Lincoln replied that while he had considered these dangers, he had tried for months to get the border states "to move in this matter, convinced . . . that it was their true interest to do so, but his labors were vain," according to a history Welles wrote. The time had come to move ahead. He would, however, willingly let Blair file his written objections.

Perhaps the most astonishing response came from Chase. No cabinet member had more vehemently promoted emancipation, and none could match his lifelong commitment to the abolitionist cause. Yet when faced with a presidential initiative that, he admitted, went "beyond anything I have recommended," he recoiled. According to Stanton's notes, Chase argued that it was "a measure of great danger—and would lead to universal emancipation." He feared that disorder would engulf the South, leading to "depredation and massacre on the one hand, and support to the insurrection on the other." He recommended a more incremental approach, "allowing Generals to organize and arm the slaves" and "directing the Commanders of Departments to proclaim emancipation within their Districts as soon as practicable." Still, he considered the proclamation better than no action at all; he would support it.

Although Chase's argument that the army might better control the pace of emancipation was legitimate, it is difficult not to suspect personal considerations behind his failure to wholeheartedly endorse the president's proclamation. Chase

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Casualties at Antietam (in a stereographic view) exceeded 22,000, but the Union victory gave Lincoln the event he sought.

had seen his bright hopes for the presidency vanish in 1856 and 1860. No president since Andrew Jackson, in 1832, had been reelected, and the next election was only two years away. Chase's strongest claim to beat Lincoln for the nomination in 1864 lay with the growing circle of radical Republicans frustrated by Lincoln's slowness on the slavery issue. The proclamation would undercut Chase's potential candidacy.

Stanton feared that Chase's arguments would deter Lincoln from issuing his proclamation, letting the "golden moment" slip away. Lincoln later maintained, however, that not a single argument had been presented that he "had not already fully anticipated and settled in [his] own mind, until Secretary Seward spoke."

Seward expressed his worry that the proclamation might provoke a racial war in the South so disruptive to cotton that the ruling classes in England and France would intervene to protect their economic interests. As secretary of state, he was particularly sensitive to the threat of European intervention. Curiously, despite his greater access to intelligence from abroad, he failed to grasp what Lincoln intuitively understood: that once the Union truly committed itself to emancipation, the masses in Europe, who regarded slavery as an evil demanding eradication, would not be easily maneuvered into supporting the South.

Beyond his worries about intervention, Seward had little faith in the efficacy of proclamations that he considered nothing more than paper without the muscle of the advancing Union Army to enforce them. Seward's position, in fact, was nearly identical to that held by Chase. His preference, he said, "would have been to confiscate all rebel property, including slaves, as fast as the territory was conquered." Only an immediate military presence could assure escaped slaves of protection. Yet Seward's practical focus underestimated the proclamation's power to unleash the moral fervor of the North and keep the Republican Party united by making freedom for the slaves an avowed objective of the war.

Despite his concerns, Seward had no thought of opposing the proclamation. Once Lincoln had made up his mind, Seward was steadfast in his loyalty to him. He demurred only on the timing. "Mr. President," he said, "I approve of the proclamation, but I question the expediency of its issue at this juncture. The depression of the public mind, consequent upon our repeated reverses, is so great that I fear. . . . It may be viewed as the last measure of an exhausted government, a cry for help." Better to wait, he grandiloquently suggested, "until the eagle of victory takes his flight," and buoyed by military success, "hang your proclamation about his neck."

"The wisdom of the view of the Secretary of State struck me with very great force," Lincoln later told the artist Carpenter. "It was an aspect of the case that, in all my thought upon the subject, I had entirely overlooked. The result was that I put the draft of the proclamation aside, as you do your sketch for a picture, waiting for a victory."

Lincoln pinned his hopes for that victory on the newly assembled Army of Virginia, headed by Gen. John Pope, and saw those hopes crushed by another Union disaster in the Second Battle of Bull Run that August. But the Union victory at Antietam on September 17 gave him the event he awaited. On September 22, he convened a cabinet meeting and revealed his decision to issue an emancipation proclamation the following New Year's Day.

After the proclamation was published in preliminary form, a large crowd of cheering serenaders gathered at the White House. But as the first day of January 1863 approached, the public evinced a "general air of doubt" regarding the president's intention to follow through.

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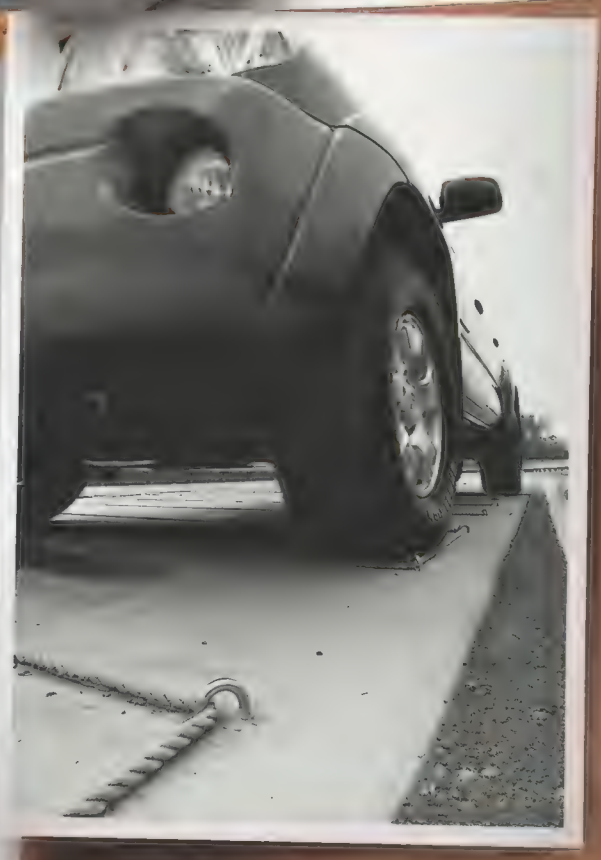

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THE CYNICS WERE WRONG. Despite repeated warnings that issuing the proclamation would have harmful consequences for the Union's cause, Lincoln never considered retracting his pledge. The final proclamation introduced a new provision: while the document proclaimed that "all persons held as slaves" within states and parts of states still in rebellion "are, and henceforward shall be free," Lincoln, for the first time, officially authorized the recruitment of blacks into the armed forces. Stanton and Chase had advocated this step for many months, yet Lincoln, knowing the disaffection it would provoke in his governing coalition, had hesitated. Now, as the public began to comprehend the massive manpower necessary to fight a prolonged war, he believed the timing was right.

On the morning he would deliver the historic proclamation, Lincoln rose early. He walked to his office to make final revisions and sent the document by messenger to the State Department to be put into legal form. Seward returned from the State Department with the formally copied proclamation shortly before 11 a.m. Lincoln read it and made ready to sign it when he noticed a technical error in the format. The document had to be returned for correction. Since the traditional White House New Year's reception was about to begin, the signing would have to be delayed.

The first hour of the three-hour reception was reserved for Washington officials—diplomats, justices and high officers in the armed forces. All the cabinet members and their families were there, with the exception of Caleb Smith, who, although he had come to favor the proclamation, had recently resigned his Department of Interior post to become a U.S. district court judge in Indiana.

At noon, the cabinet members left to prepare for their own receptions, and the gates to the White House were opened to the general public. The immense and disorderly crowd surged into the mansion at the cost of torn coattails and lost bonnets. The journalist Noah Brooks was relieved when he finally reached the Blue Room, where a single line formed to shake the president's hand. He had recently noted how Lincoln's appearance had "grievously altered from the happy-faced Springfield lawyer" he had first met in 1856. "His hair is grizzled, his gait more stooping, his countenance sallow, and there is a sunken, deathly look about the large, cavernous eyes." Nonetheless, the president greeted every visitor with a smile and a kind remark, "his blessed old pump handle working steadily" to ensure that his "People's Levee" would be a success.

After mingling with the crowd, Brooks took his California friends "a-calling" at the homes of various cabinet members. It was a beautiful, sunny day, and the streets were jammed with carriages. At Chase's mansion, they shook hands with the secretary and his "very beautiful" daughter, Kate. Chase was "gentlemanly in his manners," Brooks noted, "though he has a painful way of holding his head straight, which leads one to fancy that his shirt collar cuts his ears." Their next stop was Seward's Lafayette Square house, where Brooks' eye, initially drawn to the elegant furnishings in the upstairs parlor, came to rest on "the prodigious nose" of the secretary, who greeted each visitor "with all of his matchless *suaviter in modo*."

Of all the receptions that day, the Stantons' was the most elaborate. Brooks was overwhelmed by the abundant supply of "oysters, salads, game pastries, fruits, cake, wines . . . arranged with a most gorgeous display of china, glass, and silver." Brooks wondered if Stanton's "little, aristocratic wife," Ellen, was depleting the fortune Stanton had accumulated as a lawyer.

At 2 p.m., Lincoln, wearily finished with his own reception, returned to his office. Seward and his son Fred soon joined the president, carrying the corrected proclamation in a large portfolio. Not wishing to delay any longer, Lincoln commenced the signing. As the parchment was unrolled before him, he "took a pen, dipped it in ink, moved his hand to the place for the signature," but then, his hand trembling, he stopped and put the pen down.

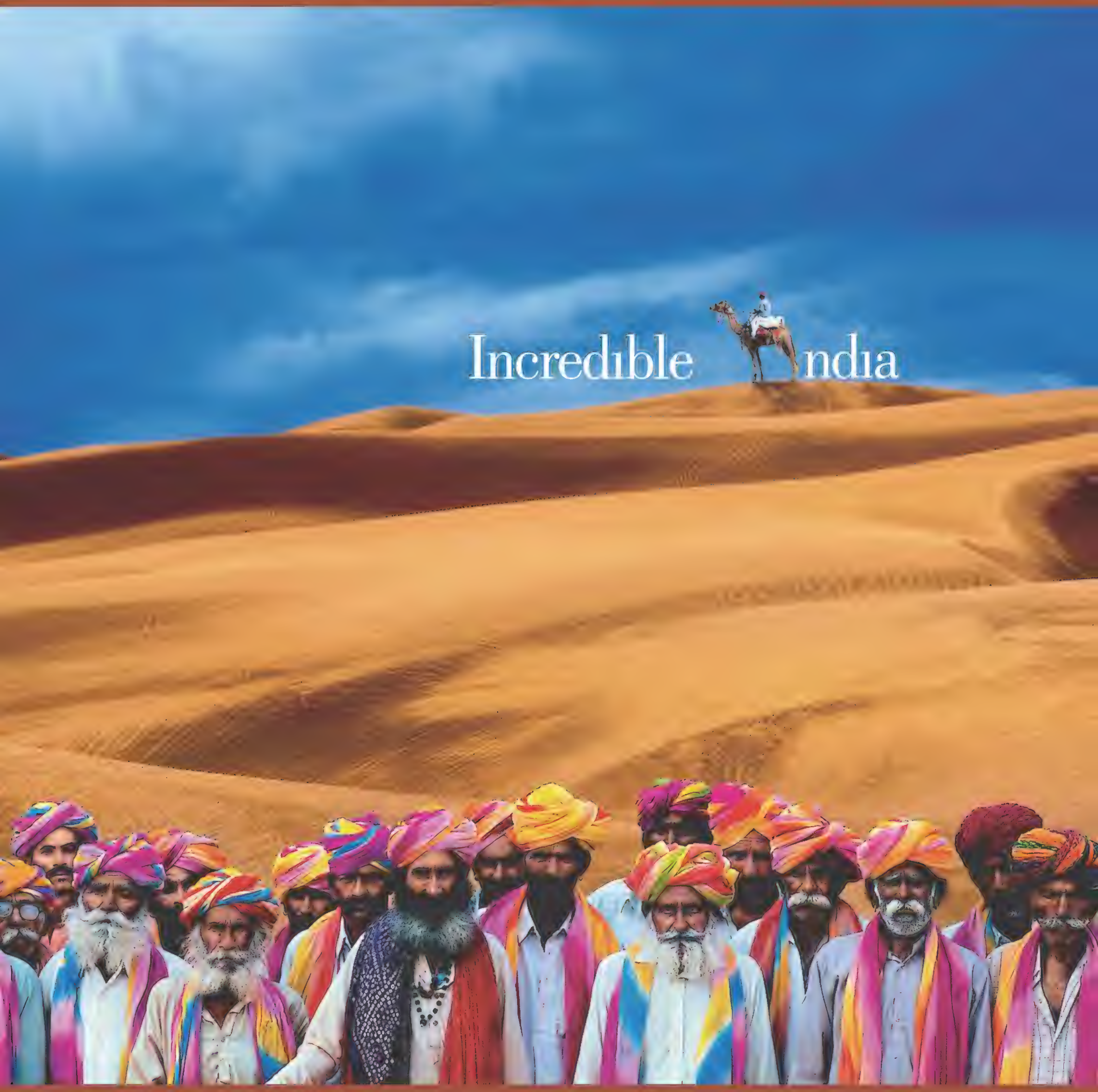
"I never, in my life, felt more certain that I was doing right, than I do in signing this paper," he said. "If my name ever goes into history it will be for this act, and my whole soul is in it." His arm was "stiff and numb" after shaking hands for hours, however. "If my hand trembles when I sign the Proclamation," Lincoln said, "all who examine the document hereafter will say, 'He hesitated.'" So the president waited a moment and then took up the pen once more, "slowly and carefully" writing his name. "The signature proved to be unusually bold, clear, and firm, even for him," Fred Seward recalled, "and a laugh followed, at his apprehensions." The secretary of state added his own name and carried it back to the State Department, where the great seal of the United States was affixed before copies were sent out to the press.

In cities and towns all across the North, people had anxiously waited for word of Lincoln's action. At Tremont Temple in Boston, an audience of 3,000 had gathered since morning, anticipating "the first flash of the electric wires." Frederick Douglass was there, along with two other antislavery leaders, John S. Rock and Anna Dickinson. At the nearby Music Hall, another crowd had formed, including the authors Henry Wadsworth Longfellow, Ralph Waldo Emerson, John Greenleaf Whittier, Harriet Beecher Stowe and Oliver Wendell Holmes. "Every moment of waiting chilled our hopes, and strengthened our fears," Douglass recalled. "A line of messengers" connected the telegraph office with the platform at Tremont Temple, and although the time was passed with speeches, as it reached nine and then ten o'clock without any word, "a visible shadow" fell upon the crowd.

"On the side of doubt," Douglass recalled, "it was said that Mr. Lincoln's kindly nature might cause him to relent at the last moment." It was rumored that Mary Lincoln, "coming from an old slaveholding family," might have persuaded him to "give the slaveholders one other chance." These speculations, which "had absolutely no foundation," hurt Mary "to the quick," her niece Katherine noted.

Finally, after 10 p.m., when the anxiety at Tremont Temple "was becoming agony," a man raced through the crowd. "It is coming! It is on the wires!" Douglass would long remember the "wild and grand" reaction, the shouts of "joy and glad-

dunes have a colour here, *brilliant as gold.*
skies have a colour here, *deeper than ink.*
valour has a colour here, *on the faces of men.*
beauty has a colour here, *in the swaying of skirts.*
incredible india, *infinite rainbows.*



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Many freed slaves joined Army units (Company E of the 4th U.S. Colored Infantry at Fort Lincoln, Washington, D.C., in 1865).

ness," the sobs and tears. The happy crowd celebrated till dawn. A similar elation poured forth in the Music Hall. "It was a sublime moment," Eliza S. Quincy, daughter of Harvard University's 15th president, Josiah Quincy, wrote Mary; "the thought of the millions upon millions of human beings whose happiness was to be affected & freedom secured by the words of President Lincoln, was almost overwhelming."

In Washington, a crowd of well-wishers gathered at the White House to applaud Lincoln's action. The president came to the window and silently bowed to the crowd. The signed proclamation rendered words unnecessary. While its immediate effects were limited, since it applied only to enslaved blacks behind Rebel lines—nationwide abolition would wait until the 13th Amendment was ratified, in December 1865—the Emancipation Proclamation changed forever the relationship of the national government to slavery. Where slavery had been protected by the national government, it was now "under its ban." The armed forces that had returned fugitive slaves to bondage would be employed in securing their freedom. "Whatever partial reverses may attend its progress," the *Boston Daily Evening Transcript* predicted, "Slavery from this hour ceases to be a political power in the country." Ohio congressman-elect James Garfield agreed, though he retained a low opinion of Lincoln, doubtless shaped by his close friendship with Chase. "Strange phenomenon in the world's history," he wrote, "when a second-rate Illinois lawyer is the instrument to utter words which shall form an epoch memorable in all future ages."

Lincoln did not need any such confirmation of the historic nature of the edict. "Fellow-citizens," he had said in his annual message to Congress in December, "*we* cannot escape history. We of this Congress and this administration, will be remembered in spite of ourselves. No personal significance, or insignificance, can spare one or another of us. The fiery trial through which we pass, will light us down, in honor or dishonor, to the latest generation."

When his old friend Joshua Speed next came to visit, Lincoln reminded him of the suicidal depression he had suffered two decades earlier, and of his disclosure that he would gladly die but that he "had done nothing to make any human being remember that he had lived." Now, indicating his Emancipation Proclamation, he declared: "I believe that in this measure . . . my fondest hopes will be realized."

BETTMANN / CORBIS

As the skyline says bon voyage,
she edges her way into the Atlantic.
An orchestra plays to the rhythm
of beating hearts
about to be swept away.
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VENEZUELA STEERS A NEW COURSE

As oil profits fund a socialist revolution, President Hugo Chávez picks a fight with his country's biggest customer—the United States

BY KATHERINE ELLISON **PHOTOGRAPHS BY PABLO CORRAL VEGA**

LUNCH WAS ON the patio, overlooking a green valley an hour's drive west of Caracas. The hostess, wearing a small fortune in St. John knits, snapped at one of the uniformed waiters for failing to top off my glass of guava juice. Over dessert, the conversation turned to the squatters who with the encouragement of President Hugo Chávez's leftist government were taking over private lands. Campaigning had begun for next December's presidential election, and the guests worried that pro-Chávez rallies would, as in years past, end in tear gas and gunfire. "There will certainly be more violence," murmured one of them, a sleekly coiffed television broadcaster.

Later, as the family chauffeur ran to get the car to take me back to my hotel, the hostess's brother-in-law winked at me. "He claims we work him too hard," he said. "We call him *el bobolongo*"—the moron.

The driver's name is Nelson Delgado. He is an agronomist by training. He used to teach, but he took the chauffeur job because he could not find one that paid more. On the way back to Caracas, he confided that his prospects were improving. He had joined one of the land "invasions" that so concern his present employers; he and a few hundred fellow squatters were planning to build homes and start farming on their plot. He had also applied for a government job—one of many

The view from La Vega, one of the hillside shantytowns that ring Caracas, includes glimpses of the capital city. It is in such neighborhoods that Chávez has started what he calls Venezuela's "Bolívarian revolution," focusing unprecedented government spending on social services for the poor.

now available under Chávez's "Bolívarian revolution"—evaluating farmers who applied for loans. He figured he wouldn't be a chauffeur much longer.

When I asked how my hostess and her family might fare in the revolutionary future, Delgado paused a moment before answering: "As long as they cooperate, they'll be OK."

VENEZUELA'S MEEK are beginning to inherit the earth—or at least a share of the oil wealth underground—and it is making them much bolder. No political leader before Chávez has so powerfully embodied their dreams—or given them so much money. Like 80 percent of his 25 million countrymen, the president, a former army paratrooper, comes from the lower classes. Elected in 1998, reelected under a new constitution in 2000 and widely expected to win another six-year term next December, he has spent more than $20 billion over the past three years on social programs to provide food, education and medical care to the neediest.

In the United States, Pat Robertson might like to see Chávez assassinated—as the Christian broadcaster suggested in August—but Chávez's countrymen are, on the whole, supportive of the president. National polls last May

MAP: MIKE REAGAN

The oil boom of the 1970s spurred investment in Caracas, such as construction of the Parque Central neighborhood (above). Subsequent oil busts have left the area somewhat down at the heels, but the rows of green in the right foreground are a recent addition—the result of a program Chávez has begun that allows citizens to cultivate unused land.

showed that more than 70 percent of Venezuelans approved of his leadership. "Comedians used to make fun of our government officials," says Felix Caraballo, 28, a shantytown dweller and father of two who studies at a new government-subsidized university. "They'd say, 'We're going to build a school, a road, clinics.' . . . And then they'd say, 'We've thought about it, but we're not going to do it.' Today, thanks to *Chávismo*"—as Chávez's political program is known—"another world is possible."

Chávez, 51, is one of the most contradictory *caudillos* ever to tackle Latin America's intractable poverty and inequity. He's a freely elected coup plotter (jailed for rebellion in 1992), a leftist with a fat wallet and a fire-breathing foe of the U.S. government, even though his treasury relies on gas-guzzling gringos. Oil provides roughly half of Venezuela's government income, and the United States—"the Empire," to Chávez—buys some 60 percent of its oil exports.

In his first year in office, Chávez won a popular vote for a new constitution, which, among other things, changed his nation's name to the Bolívarian Republic of Venezuela to honor his hero, Simón Bolívar (1783-1830), the independence leader from Caracas, the capital. Since then, Chávez's friendship with Cuba's Fidel Castro and his attempts, *à la* Bolívar, to unite his neighbors against "imperialists" have provoked hostility from Washington. (Secretary of State Condoleezza Rice has called him a "negative force" in the region.) At home, Chávez has weathered a 2002 coup (he was reinstated after two days of domestic and international protests), a 63-day national strike in 2002-03 and a recall referendum in 2004, which he won with 58 percent support.

Through it all, Venezuelans of all classes have become obsessed with politics, to the point where families have split along political lines. As wealthy conservatives have fled to Miami or hunkered down, expecting the worst, unprecedented hope has come to people like Delgado and Caraballo, who were among a few dozen Venezuelans I met on a recent visit. I arrived with three questions: Is Chávez simply throwing Venezuela's oil wealth at the poor, as his critics say,

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KATHERINE ELLISON was the Latin American bureau chief for Knight Ridder newspapers from 1987-99. PABLO CORRAL VEGA also photographed the story on Australia that begins on page 90.

or are his plans more far-reaching and sustainable? How democratic is his revolution? And how long can the United States coexist with Chávez-style democracy?

CHÁVEZ'S SUPPORTERS say that to appreciate his vision, you must first look to the hillside shantytowns that ring Caracas. One of them—La Vega, on the city's western edge—is where Felix Caraballo lives. It takes roughly an hour to get there from downtown—by private taxi and then one of the communal jeeps that dares the steep, rutted ascent, paralleling a sewage ditch lined with avocado and banana trees.

The journey helps explain why many frequent travelers to Latin America prefer almost any other national capital to Caracas. The streets are choked with traffic, the air with black exhaust. On one side of the road stand skyscrapers; on the other flow the remains of the Guaire River, a concrete canal filled with runoff and sewage. Only the view of Mount Avila, its bright green peak rising more than 7,000 feet above the sprawl, relieves the dreariness.

On the journey there, Caraballo told me that while he was growing up in the 1980s, his family—all engineers on his father's side—had fallen from middle class to poor, like hundreds of thousands of other Venezuelan families in that era of slumping oil prices. When we reached the hilltop and outer limit of La Vega, he showed me a neighborhood that was trying to reverse the descent.

Caraballo said that Sector B, as it is known, was safer than in previous years, the police having killed a small gang of crack dealers several weeks before. There were also tangible signs of progress. Residents could shop at a brand-new market, its shelves stacked with sugar, soap, powdered milk and bags of flour, all marked down as much as 50 percent. The red brick medical clinic was also new, as were the ten Dell computers in the air-conditioned wireless Internet center, staffed by two helpful technicians. In one home, half a dozen students, ages 12 to 40, sat at wooden school desks, taking free remedial high-school classes. Some of them received government stipends of $80 a month to attend.

The market's food came in plastic bags printed with pro-government slogans, the clinic's doctors were Cuban imports and the remedial lesson I observed was an explanation of rainfall that would be third-grade material in a U.S. class-

"Comedians used to make fun of our government officials," says Felix Caraballo (left). But with the government funding not only the university he attends, but also the school attended by children in La Vega (above), Caraballo says "another world is possible." In recent surveys, a majority of Venezuelans said they had benefited from government spending on food and health care as well as on education.

room—yet they were all splendid gifts in a country where roughly half the population earns less than $2 a day.

Of course, daily life in La Vega bears little semblance to the self-image Venezuela's elite held dear for most of the past century. Oil wealth has given rise to grand aspirations ever since 1922, when a blowout sprayed "black rain" over the small town of Cabimas. By 1928, Venezuela had become the world's largest oil exporter, with Venezuelans of all classes acquiring costly *Yanqui* tastes. The country has long been one of the world's top five per capita consumers of whiskey and is a major Latin American market for Viagra.

In 1976, the government nationalized its subsoil wealth. High oil prices and stable politics allowed for grand living: a trip to Disney World was a rite of passage even for the children of some parking lot attendants, and Venezuelan shoppers in Miami were known as the *Dáme dos* ("Give me two!") crowd. But by 1980, oil prices began to fall, and the hard times that followed revealed the ruling class as graft-hungry and, worse, managerially inept. In 1989, President Carlos Andrés Pérez (later impeached for corruption) clumsily imposed an austerity program, which, among other things, increased bus fares. Riots broke out; Pérez called out the army,

and more than 200 people were killed in the infamous suppression dubbed "*el Caracazo*"—Caracas' "violent blow."

Chávez, then a midcareer lieutenant who had studied Marxism and idolized Che Guevara, was among the troops called to put down the protests. He was already plotting rebellion by then, but he has cited his outrage at the order to shoot his compatriots as a reason he went ahead, three years later, with the coup attempt that made him a national hero.

HUGO CHÁVEZ was one of six children of cash-strapped primary school teachers in western Venezuela, but he dreamed big. "He first wanted to be a big-league [baseball] pitcher, and then to be president," says Alberto Barrera Tyszka, coauthor of the recent Venezuelan bestseller *Hugo Chávez Sin Uniforme* (Chávez Without His Uniform). "At 19, he attended Pérez's presidential inaugural, then wrote in his diary: 'Watching him pass, I imagined myself walking there with the weight of the country on my own shoulders.'"

After his coup attempt, Chávez was so popular that almost every candidate in the 1993 presidential campaign promised to free him from jail; the winner, Rafael Caldera, pardoned him in one of his first official acts. Eventually Chávez joined with leftist politicians and former military colleagues to launch the Fifth Republic Movement, and in December 1998, having never held a political post, he was elected Venezuela's president with 56 percent of the vote.

He moved quickly: within a year, his new constitution replaced a bicameral Congress with a single-chamber National Assembly and extended the presidential term from four years to six, with the right to immediate reelection. Thus Chávez's first term officially began with the special election of 2000. Since then, he has used his outsider appeal to transform both the presidency and the government.

He likes to speak directly to his constituents, especially on his Sunday TV show, "Aló, Presidente." Appearing often in a bright red shirt and jeans, he talks for hours at a time, breaks into song, hugs women, gives lectures on nutrition and visits sites where people are learning to read or are shopping for subsidized groceries. He quotes Jesus and Bolívar, inveighs against capitalism and excoriates the "oligarchs" and the "squalid ones"—the rich and the political opposition. And he rarely misses a chance to taunt the U.S. government.

While Chávez has made the most out of Robertson's call for his assassination—he declared it "an act of terrorism"—he has long suggested that Washington is out to get him. He has notoriously called President Bush a *pendejo*, using a vulgar term for "jerk," and he has threatened to cut the United States off from Venezuelan oil. At the United Nations in September, he told a radio interviewer that there was "no doubt whatsoever" the United States "planned and participated in" the 2002 coup and wanted him dead. (The Bush administration waited six days after the coup collapsed before condemning it but insists it played no part in the coup.)

"He wants to present himself as the great enemy of Bush, and he does it very well," biographer Barrera told me. "All of us Latin Americans have a few grains of anti-imperialism in our hearts, because the U.S. foreign policy here has been such

"He first wanted to be a big-league pitcher, and then president," a biographer says of Chávez (left, at a rally last summer). His populist politics have inspired some citizens to paint murals in solidarity with the Argentine rebel Che Guevara (above). More concretely, Chávez started a program to ensure that longtime residents in poor neighborhoods (La Vega, opposite) receive title to the land they've occupied.

a disaster"—a reference to U.S. cold war plots against elected leaders and support for right-wing dictators in Guatemala, Chile, Cuba, Nicaragua and elsewhere. "So each time he says he's anti-imperialist and the U.S. reacts, it excites people all over Latin America—and Europe. The U.S. falls into his trap as if 40 years with Castro taught you nothing."

Yet the Bush administration has understandable reasons for thinking of Chávez as a threat. One is that Bush's plans for new, hemisphere-wide trade pacts depend on Latin Americans' goodwill. But Bush is extremely unpopular in the region, while Chávez has whipped up support with in-your-face opposition to the United States combined with neighborly generosity. He has offered other Latin American nations financial aid and oil while encouraging them to oppose U.S.-led trade overtures. At the Summit of the Americas in early November, he sought to bury a measure Bush has favored, telling a cheering crowd of some 40,000: "Each one of us brought a shovel, a gravedigger's shovel, because [this] is the tomb of the Free Trade Area of the Americas." (Before Thanksgiving, he sought to slight Bush by offering discounted heating oil to the poor in a few U.S. cities through his state-run oil company's U.S. subsidiary, Citgo.)

In addition, high-ranking Bush administration officials suggest that Chávez is funneling support to radical movements elsewhere in Latin America, particularly in Colombia and Bolivia. They point to Chávez's recent purchase of 100,000 Russian AK-47s. Venezuelan officials say they are for use by civilian militias to defend against a U.S. invasion.

Oil is another U.S. concern—though perhaps not to the degree Chávez likes to suggest. In 2004, Venezuela was the fourth-ranking oil exporter to the United States, sending approximately 1.3 million barrels a day, or about 8 percent of the total U.S. supply. Chávez has promised to increase shipments to oil-thirsty China, but building a pipeline through Panama for trans-Pacific shipments could take several years and considerable expense. A more immediate concern, with ramifications for U.S. oil customers, is that Venezuela's state-run energy company is, by many accounts, going to seed because money that normally would have been reinvested in it has gone instead to Chávez's social programs.

BOTTOM LEFT: STR / AFP / GETTY IMAGES

For now, the U.S."Empire" is the only geographically feasible market for Chávez's exports. But oil remains his trump card as he keeps up his enthusiastic spending in the months before this year's election. And while the new constitution limits him to just one more presidential term, he says he has no plans to retire before 2023.

U.S. officials appear to be making similar calculations. When I asked one how long he thought the revolution might last, he answered glumly, "As long as Chávez lives."

Among Venezuelans, however, the more pressing question is where Chávez plans to lead them now.

CHÁVEZ'S IMAGE as a symbol of success for the downtrodden strikes a chord with the majority of Venezuelans who were dismissed by the rich for so many decades, Barrera says. "He eliminates the shame of being poor, of being dark-skinned and not speaking the language very well." But improved self-esteem would mean little without more tangible results. In recent surveys by the Caracas market research firm Datos, a majority of Venezuelans said they had benefited from government spending on food, education and healthcare. In 2004, the average household income increased by more than 30 percent.

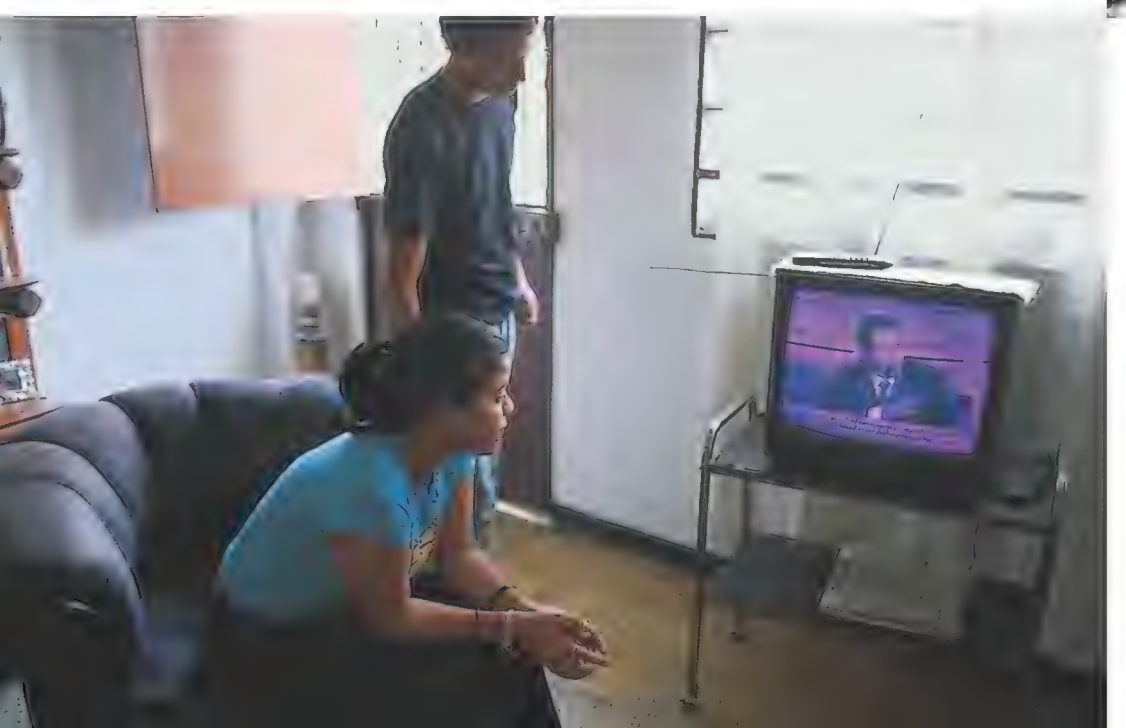
Oil, of course, makes it all possible. The gross domestic product grew by more than 17 percent in 2004, one of the world's highest rates. The government's budget for 2005 increased 36 percent, and Chávez also is free to dip into Venezuela's foreign currency reserves for even more social spending. Officials say they are now moving beyond the showy gifts of La Vega to more transformative achievements, such as creating thousands of workers' cooperatives, subsidizing small and medium businesses with loans and steering growth outside the cities. Even the military officers who once posed the most serious threat to Chávez's rule seem to have calmed down after yearly promotions and hefty pay raises.

Chávez's determination to put Venezuela's poor majority in the limelight has won him support from some unlikely sources. "I'm the only one in my family who sympathizes with him," Sandra Pestana, the daughter of wealthy industrialists, told me on the evening flight from Houston. "They say, 'You don't know what it's like to live here; this guy is crazy.'" A U.S.-trained psychologist, Pestana has lived in the San Francisco Bay Area since 1988, but she visits Caracas every year. She grew up accustomed to servants and said it never dawned on her that she had lived "a fairy tale life" until the day she found herself, in tears, cleaning the bathroom in her new home. That epiphany led her to new empathy for the millions of Venezuelans who toil for the upper classes.

Now, Pestana looks back on her youth as "horribly embarrassing," and yearns to tell her rich relatives "not to flash their money around so much anymore, to be a little bit more sensitive." Pestana said she sees Chávez as making the country "more like the United States. He's burst the bubble of colonialism, that's what he's done. I don't like the polarization he has caused, but the rich here were unmovable. . . . From my Americanized eyes, he is democratizing Venezuela."

Many Venezuelans would take issue with her last point, noting new laws sharply limiting freedom of expression. As of this year, anyone who with "words or in writing or in any other way disrespects the President of the Republic or whomever is fulfilling his duties" can be sent to prison for up to 30 months. Exposing others to "contempt or public hatred" or publishing inaccurate reports causing "public panic or anxiety" invites longer terms.

The laws are a "Damocles sword—we're permanently threatened," said Teodoro Petkoff. A former leftist guerrilla, he escaped from a high-security prison in the 1960s by faking a gastric ulcer; in the mid-1990s, he served as President Caldera's minister of economic planning. Now a vigorous 73-



Chávez likes to speak to constituents—and taunt the United States—through his TV show, "Aló, Presidente" (in a Caracas living room, left), but his government's reach is also visible at subsidized food markets (opposite) and special "Bolívarian" schools (above). The schools provide free classes, health care and meals, but Chávez's critics say they are political indoctrination centers.

year-old, he needles the government with his afternoon newspaper, *TalCual* (How It Is).

While no journalist has yet gone to jail, half a dozen have been accused of libel or other crimes under the new rules, Petkoff said, and others seem to be censoring themselves. He, too, has felt the heat—"Just yesterday, the attorney general called me a CIA tool," he said, "which is ridiculous, since I am more against Bush than Chávez is"—yet he appears to have escaped serious persecution because of what he calls his "evenhandedness": he criticized both the 2002 coup and the general strike, although he clearly is no fan of Chávez's.

"I knew Chávez before he was president, and I never liked his authoritarianism, his undemocratic style," Petkoff told me. But most offensive to him is what he says is a squandering of Venezuela's oil wealth. "Obviously, one of the ways you have to spend it is in social programs to alleviate the poverty of the immense majority of the population," he said. "But of course you have to spend it in an organized, audited way."

As the presidential campaign takes shape, few Venezuelans expect opposition to Chávez to unite behind a strong candidate. Petkoff allowed that he was considering running himself, but suggested that would happen only if Chávez's appeal begins to fade. "I'm not a kamikaze," he said.

LINA RON, a stocky, bleached-blonde firebrand, leads one of the so-called Bolívarian Circles, or militant citizens groups, sure to be supporting Chávez in the coming election. I met her at the leafy Plaza Bolívar, during a ceremony honoring the 438th anniversary of the founding of Caracas. Wearing a camouflage jacket, cap and khaki scarf, and surrounded by similarly outfitted women, she ascended a stage and threw her arms around a grinning minister of defense, Orlando Maniglia. Dozens of people then encircled her and followed as she moved through the plaza, trying to catch her attention, get her autograph, or beseech her for favors.

Ron made her way through streets crowded with kiosks selling T-shirts, buttons and keychains adorned with the faces of Che Guevara and Chávez, toward what she calls "the Bunker," a warren of offices in a small plaza redolent of urine and garbage. "For the people, everything! For us, nothing!" she shouted to her admirers before slipping away.

Ron is a radio broadcaster and founder of the Venezuelan People's Unity Party, which she says is made up of "radicals, hard-liners and men and women of violence." In the chaos after the 2002 coup attempt, she led a mob that attacked an opposition march; dozens of people were hurt by gunfire, rocks and tear gas. Chávez has hailed her as "a female soldier who deserves the respect of all Venezuelans" but also once called her "uncontrollable." While she holds no government title, ministries "channel resources through her," said a woman who was taking calls for her at the Bunker.

Of late, Ron has focused her attention, and ire, on María

Corina Machado, an industrial engineer who is vice president of the election monitoring group Sumate (Join Up), which supported the recall petition against Chávez in 2004. Machado and three other Sumate officials have been ordered to stand trial for treason for accepting $31,000 from the U.S. Congress-controlled National Endowment for Democracy to run voter education workshops before the referendum.

Machado, 37, says she is not seeking office, but the government evidently sees her potential appeal as a kind of Latin Lech Walesa in high-heeled sandals. Chávez has called her and the other defendants "traitors." Ron has called her a "coup-plotter, fascist and terrorist." When she met President Bush at the White House in May, it hardly eased the tension.

"The environment is totally scary," Machado told me in flawless English. Sumate's offices were crowded with computers and volunteers, and on Machado's desk two cellphones and a Blackberry rang intermittently. She had posted a printed quotation ascribed to Winston Churchill: "Never give up! Never give up! Never, ever, give up!"

A trial was scheduled for early December, Machado said, and a judge, not a jury, would decide the case. A single mother of three facing a maximum sentence of 16 years in prison, she said she was trying not to think about the possibility of having to go to jail. "Our only hope is to continue to be visible," she said. "If we lower our heads, if we stop working, if we stop denouncing, we'll be hit harder. Our best defense to postpone or delay action against us is to work harder."

Before becoming a political activist, Machado worked in the auto-parts firm where her father was an executive and helped run a foundation for street children. Driven by concern that Chávez was eroding democracy, she helped found Sumate in 2001. "We were half a dozen friends, all engineers, with no experience in politics. If we'd had experience," she said, laughing, "we probably wouldn't have done it."

Their initial plan was to collect signatures to take advantage of a mechanism in Chávez's new constitution allowing for the recall of public officials. But Sumate has also monitored polling places and has been auditing computerized voter registration lists.

Machado believes that Chávez is the consequence rather than the cause of Venezuela's troubles. "It's true that the rich ignored the poor," she said. "Now people are saying, 'I finally exist. President Chávez represents my dreams, my hopes.' He's an amazingly effective spokesperson. But we're not in a race for popularity. We're trying to show democracy is a system that gives you a better standard of living."

Like so many others I interviewed, Machado seemed hopeful about what she described as a new self-confidence among Venezuelans. She argued that all the political turmoil had made people appreciate the importance of participating in politics themselves, of not relying on political parties to

defend their rights. Yet the scene outside the Miraflores Palace a few hours after my visit to Sumate suggested that true empowerment will take some time.

UNDER A BLAZING MIDDAY SUN a scraggly line of petitioners stretched up the block from the palace's wrought-iron gates. Some said they'd been waiting as long as 15 days, sleeping in relatives' homes or on the street. All were seeking Chávez's personal attention. Flood victims wanted new homes; an unemployed police officer wanted her job back; an elderly woman wanted medicine. Bureaucracies had failed them, but as Sulay Suromi, a copper-haired woman with a black parasol who'd taken a bus three hours from her home in Carabobo state, told me, "Chávez is a man who sees people."

"I'm 100 percent *Chávista*," boasted Suromi, who was hoping to get title to a parcel of free land so she could build a tourist *posada*.

Just then a tall, balding man walked up from the end of the line and angrily declared: "This government doesn't work! They're not going to help you!"

Suromi and half a dozen other women shouted him down. "Of course they won't help *you*—you're useless!" yelled one.

"Go back home!" shouted another.

From behind the fence, two uniformed guards approached and gently told the crowd to keep waiting. The tall man ambled back to the end of the line. Another man saw me taking notes and politely asked if I were from the CIA.

Venezuela's revolutionary future may be played out in scenes like this, as the expectations Chávez has raised start to bottleneck at the figurative palace gates. Unemployment, by government measures, is above 12 percent, and some analysts believe it is actually several points higher. Underemployment, represented by the hundreds of kiosks multiplying in downtown Caracas, has also swelled. Inflation, expected to reach 15 percent in 2005, has been another concern, with economists warning that at the least, Chávez is pursuing good intentions with bad management.

Edmond Saade, president of the Datos polling firm, said his surveys show a marked decline in confidence in the government since April. Yet Saade noted that that feeling had not translated into a rejection of Chávez. "He's not at all to blame by the general public; he's adored," Saade said. Asked how long that might last, he shrugged. "If you manage populism with good controls and efficiency, you can last a long time. But so far, this is not what Chávez is doing. And if oil prices drop again, the whole revolution becomes a mirage."

Still, every Venezuelan I talked to said the country has changed in some irreversible ways. The poor have had their first real taste of the country's wealth, the rich their first experience of sharing it.

"I am very grateful to Chávez," said Nelson Delgado, the agronomist chauffeur, as he drove me from my country lunch through the treeless exurban slums toward downtown Caracas. But then he predicted, with the confidence of the formerly meek, that with or without Chávez, Venezuela's revolution would go forward. "It has to," he said. "Because there are more of us than there are of them."

Chávez's revolution has plenty of critics. "The environment is totally scary," says María Corina Machado (opposite), vice president of an election monitoring group. Lina Ron (above), leader of a citizens group that supports Chávez, has called Machado a "fascist." Mariannys Chávez (with friends Mayerling Luque and Mayerling Caraballo, center and right), says the president "talks too much and is not solving Venezuela's real problems."

HIPPO HAVEN

An idealistic married couple defy poachers and police in strife-torn Zimbabwe to protect a threatened herd of deceptively placid pachyderms

BY PAUL RAFFAELE

WE HEAR THE HIPPOS BEFORE WE SEE THEM, grunting, wheezing, honking and emitting a characteristic laugh-like sound, a booming *humph humph humph* that shakes the leaves. Turning a corner we see the pod, 23 strong, almost submerged in the muddy stream.

The dominant bull, all 6,000 pounds of him, swings around to face us. Hippos have poor eyesight but an excellent sense of smell, and he's caught our scent. Karen Paolillo, an Englishwoman who has spent 15 years protecting this group of hippos in Zimbabwe, calls out to ease the animals' alarm: "Hello, Robin. Hello, Surprise. Hello, Storm."

She is most worried about Blackface, a cantankerous female guarding an 8-month-old calf that is nuzzled against her at the edge of the huddle. Blackface bares her enormous teeth, and Paolillo tenses. "She hates people, and she's charged me plenty of times," she says in a soft voice. "If she charges, you won't get much warning, so get up the nearest tree as fast as you can."

Paolillo, 50, lives on a wildlife conservancy 280 miles southeast of Harare, Zimbabwe's capital. At one million acres, the Savé Valley Conservancy is Africa's largest private wildlife park. But it's no refuge from the political chaos that has gripped Zimbabwe for the past five years. Allies of Zimbabwe's president, Robert Mugabe, have taken over 36,000 acres near where Karen and her husband, Jean-Roger Paolillo, live and threatened to burn their house down. And Jean has been charged with murder.

Karen, who is fair-haired and delicate, came by her love of animals naturally: she was born on the outskirts of London to a veterinarian father and a mother who ran a children's zoo. In 1975, she abandoned a career in journalism to train as a casino croupier, a trade that would allow her to travel the world. In Zimbabwe, she became a safari guide. She married Jean, a French geologist, in 1988, and joined him when he took a job with a mining company searching for gold. They found none.

The butt of ballerina jokes, the hippopotamus is in fact fearsome and surprisingly agile, weighing two to three tons and able to run 30 miles per hour. Though some populations are thriving, hippos are in decline overall, victims of poachers and habitat loss.

But when Karen learned that poachers were killing hippos near their base camp, she vowed to help the animals. She and Jean leased eight acres in Savé Valley, where they watch over the last of the Turgwe River's 23 hippos. She knows each hippo's temperament, social status, family history and grudges.

Robin, the dominant male, edges toward Blackface and her calf, which Karen calls "Five." The big female lunges at him, sending plumes of water into the air and chasing him away. "Blackface is a very good mother and takes special care of her calves," Paolillo says.

On the other side of the stream, Tacha, a young female, edges toward Storm, an 8-year-old male that Robin tolerates as long as he remains subservient. Tacha dips her face in front of Storm and begins to blow bubbles through the water, a hippo flirtation. "She's signaling to Storm that she wants to mate with him," whispers Paolillo. "It could mean trouble, because that's Robin's privilege."

Storm faces Tacha and lowers his mouth into the water, letting Tacha know that he welcomes her advances. But Blackface maneuvers her own body between the young lovers and pushes Storm, who happens to be her grandson, to the back of the huddle. "She's protecting him from Robin's anger because he'd attack Storm and could kill him if he tried to mate with Tacha," Paolillo says. As if to assert his dominance, Robin immediately mounts Tacha and mates with her.

Karen Paolillo (above, with the skull of a hippo named Bob) watches over a hippo pod in remote Zimbabwe, where tensions flare. Police accused her husband, Jean-Roger (with guards dismantling poachers' snares, below), of killing a man. He says a hippo did it.

TO MANY, the hippo is a comical creature. In the Walt Disney cartoon *Fantasia*, a troupe of hippo ballerinas in tiny tutus performs gravity-defying classical dance with lecherous male alligators. But many Africans regard hippos as the continent's most dangerous animal. Although accurate numbers are hard to come by, lore has it that hippos kill more people each year than lions, elephants, leopards, buffaloes and rhinos combined.

Hippo pods are led by dominant males, which can weigh 6,000 pounds or more. Females and most other males weigh between 3,500 and 4,500 pounds, and all live about 40 years. Bachelor males graze alone, not strong enough to defend a harem, which can include as many as 20 females. A hippopotamus (the Greek word means "river horse") spends most of the day in the water dozing. At night hippos emerge and eat from 50 to 100 pounds of vegetation. Hippos can be testy and brutal when it comes to defending their territory and their young. Though they occasionally spar with crocodiles, a growing number of skirmishes are with humans. Hippos have trampled or gored people who strayed too near, dragged them into lakes, tipped over their boats, and bitten off their heads.

Because hippos live in fresh water, they are "in the cross hairs of conflict," says biologist Rebecca Lewison, head of the World Conservation Union's hippo research group. "Fresh water is probably the most valuable and limited resource in Africa." Agricultural irrigation systems and other development have depleted hippos'—and other animals'—wetland, river and lake habitats. And the expansion of waterside farms, which hippos often raid, has increased the risk that the animals will tangle with people.

In countries beset by civil unrest, where people are hungry and desperate, hippos are poached for their meat; one hippo yields about a ton of it. Some are killed for their tusk-like teeth, which can grow up to a foot or longer. (Though smaller than elephant tusks, hippo tusks don't yellow with age. One of George Washington's sets of false teeth was carved from hippo ivory.)

Hippos once roamed over most of Africa except the Sahara. Today they can be found in 29 African countries. (The extremely rare pygmy hippopotamus, a related species, is found in only a few West African forests.) A decade ago there were about 160,000 hippos in Africa, but the population has dwindled to between 125,000 and 148,000 today, according to the World Conservation Union. The United Nations is about to list the hippopotamus as a "vulnerable" species.

The most dramatic losses have been reported in the Democratic Republic of Congo (DRC), where civil war and militia rampages, with subsequent disease and starvation, have killed an estimated three million people in the past decade.

Sydney-based PAUL RAFFAELE wrote and photographed "Born into Bondage," about slavery in Niger, for the September 2005 issue.

KAREN PAOLILLO (2); PP. 72,73 SKIP KALTENHEUSER

The Paolillos aren't scientists, but they have documented some odd hippo behavior, including a possible method of consuming minerals (top, a 6-month-old named Hope licks a crocodile's tail). Hippo pods are hierarchical, with a dominant male associated with a harem of around 20 females. Battles between rivals (bottom, a duel in the Central African Republic) are common. Hippos can open their jaws 150 degrees (humans only about 45 degrees) to inflict a deadly bite.

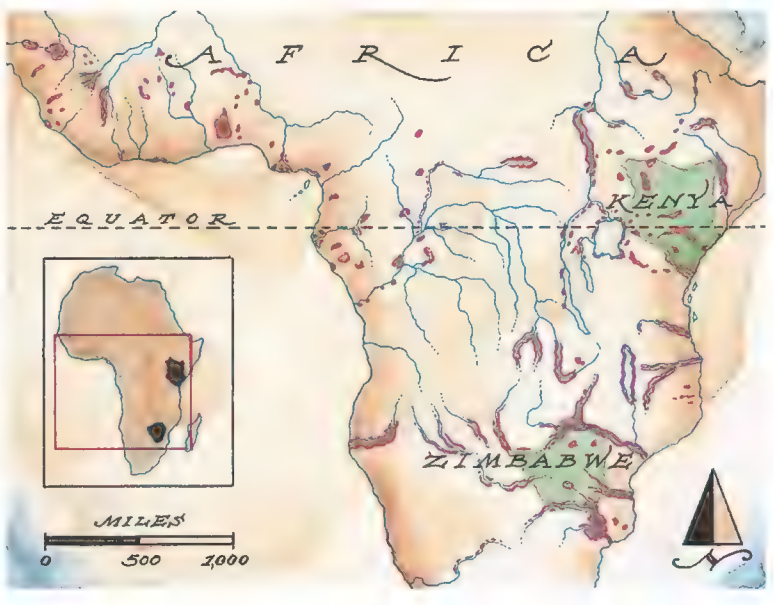
KAREN PAOLILLO; BIOS / PETER ARNOLD

Hippos are reportedly being killed by local militia, poachers, government soldiers and Hutu refugees who fled neighboring Rwanda after participating in the 1994 genocide of Tutsis. In 1974, it was estimated that about 29,000 hippos lived in DRC's Virunga National Park. An aerial survey conducted this past August by the Congolese Institute for the Conservation of Nature found only 887 remaining.

THE HIPPO has long fascinated me as one of nature's most misunderstood, even paradoxical, creatures: a terrestrial mammal that spends most of its time in water, a two-ton mass that can sprint faster than a person, a seemingly placid oaf that guards its family with fierce cunning. So I went to Kenya, where a stable government has taken pains to protect the animal, to see large numbers of hippos up close (see p. 78). I went to Zimbabwe, in contrast, to get a feel for the impact of civil strife on this extraordinary animal.

Because Zimbabwe rarely grants visas to foreign journalists, I traveled there as a tourist and did my reporting without government permission. I entered through Bulawayo, a southern city in the homeland of the Ndebele tribe. The Ndebele people are traditional rivals of the Shona, Mugabe's tribe. Most street life in Africa is boisterous, but the streets of Bulawayo are subdued, the result of Mugabe's recent crackdown. People walk with heads down, as if trying not to attract attention. At gas stations cars line up for fuel, sometimes for weeks.

Political chaos in Zimbabwe (above, President Robert Mugabe, whose 25-year rule has increasingly been marked by violence and corruption) contributes to declining hippo numbers there. Across the continent, the animal's range (below) is shrinking.



Zimbabwe is in trouble. It suffers 70 percent unemployment, mass poverty, annual inflation as high as 600 percent and widespread hunger. Over the past ten years, life expectancy has dropped from 63 to 39 years of age, largely due to AIDS (one quarter of the population is infected with HIV) and malnutrition. Mugabe, a Marxist, has ruled the country since it gained independence from Britain in 1980, following 20 years of guerrilla war to overthrow Ian Smith's white-led government of what was then called Rhodesia. According to Amnesty International, Mugabe has rigged elections to stay in power, and he has jailed, tortured and murdered opponents. Since March 2005, when Mugabe and his ZANU-PF party won a national election described by Amnesty International as taking place in a "climate of intimidation and harassment," conditions have deteriorated markedly in those parts of the country that voted for Mugabe's opponents. His "Youth Brigades"—young thugs outfitted as paramilitary groups—have destroyed street markets and bulldozed squatter camps in a campaign Mugabe named Operation Murambatsvina, a Shona term meaning "drive out the rubbish." A U.N. report estimates that the campaign has left 700,000 of the country's 13 million people jobless, homeless or both.

In 2000, Zimbabwe was Africa's second most robust economy after South Africa, but then Mugabe began appropriating farmland and giving it to friends and veterans of the 1970s guerrilla wars. Most of the new landowners—including the justice minister, Patrick Chinamasa, who grabbed two farms—had no experience in large-scale farming, and so most farms have fallen fallow or are used for subsistence living.

At the Savé Valley Conservancy, originally formed in 1991 as a sanctuary for black rhinos, people belonging to the clan of a veteran named Robert Mamungaere are squatting on undeveloped land in and around the conservancy. They have cleared forests and built huts and fences. They've started killing wild animals. And they mean business.

JEAN-ROGER PAOLILLO tries to keep the poachers away from the hippos. "I patrol our land every day, removing any snares I find and shooting the poachers' hunting dogs if I see them. I hate doing that, but I have to protect the wild animals. The invaders have retaliated by cutting our phone lines four times and twice surrounding our house and threatening to burn it down."

The Paolillos faced their most severe crisis in February 2005, when a group of Youth Brigades and two uniformed policemen appeared outside their door one morning. Shouting that Jean had killed someone, they marched him to the river. The dead man was a poacher, Jean says. "He had gone into a hippo tunnel in the reeds, and his companions said all they found of him were scraps of his clothing, blood smears and drag marks leading to the water."

KAREL PRINSLOO / ASSOCIATED PRESS; MAP: MIKE REAGAN

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IN THE SWIM

As dusk settles over Kenya's Lake Naivasha, a ten-mile-stretch of fresh water fringed by dense papyrus reeds, some 500 hippos heave themselves onto land. They will trek up to six miles to spend the better part of the night eating as much as 100 pounds of food apiece, mostly grass and leaves. For centuries, Lake Naivasha's villagers have known to keep out of the hippos' way during their nightly grazing jaunts.

Hippo populations are declining in Zimbabwe, the Democratic Republic of Congo and other countries where war and economic upheaval have made people desperate. Kenya, in contrast, is a relatively stable country with well-protected national parks and a strong tourism industry. There, hippos are thriving.

One morning, a local boatman, Francis Kihiu, takes me in a motorized canoe along the shallows of Lake Naivasha. Within minutes we reach the first hippo clan, some 15 gray-brown behemoths almost totally submerged, only their black eyes, upright hairy ears and large wide nostrils showing. "See the bull," Kihiu says, pointing to a male about 13 feet long. It moves to the front of the huddle to place himself between the other hippos and us. Kihiu's hand never leaves the throttle, and when the big bull suddenly submerges just a few yards from the canoe, Kihiu guns the motor and we zoom away. "He might have been retreating, but he might also have been planning to flip us over," Kihiu says when we are well clear of the clan. "You can't predict what a hippo will do, and so I take no chances."

Most hippo habitat is muddy water; the animals practically disappear once they submerge. One of the best places to observe hippos underwater is in Kenya's Tsavo West National Park, 300 miles from Lake Naivasha. A pod of 38 hippos lives there in three linked ponds of clear water fed by a natural spring. Hippos are poor swimmers, their bodies too dense to float. But in the water, they can stroll about or even gallop along the bottom of a lake or river, behavior that nature documentary makers have filmed in these ponds.

On this day, the dominant male of the Tsavo West spring-fed ponds sleeps blissfully in the water, his massive head resting on a female's back. Up close, the hippos' gnarled and scarred hides look formidably tough. The skin of a bull can weigh up to half a ton. It's so thick that ancient Roman soldiers covered their shields with hippo hide.

After about an hour the male stirs and circles the females. "He does this about every hour," explains John Kariuki, Tsavo West's resident scientist. "He's checking that there's no danger, and that no other male hippos have arrived to challenge his dominance." Then he drifts back to sleep, looking deceptively harmless. —*P.R.*

Karen speculates that the poacher must have encountered a hippo called Cheeky, who was in the reeds with a newborn: "We think Cheeky killed the poacher when he stumbled on her and the calf, and then a crocodile found the body and dragged it into the water for a meal," she says.

The policemen arrested and handcuffed Jean and said they were taking him to the police station, an eight-hour trek through the forest. They released him, but the charge still stands while the police investigate. He says that a mob led by a veteran guerrilla commander came to his house after the arrest and told Jean that unless he left immediately he would disappear in the bush.

Karen bristles at the retelling. "I refuse to leave the hippos," she says.

THEY CALL THE PLACE Hippo Haven, and that pretty much sums up the Paolillos' approach. They aren't academic scientists. They haven't published any articles in learned journals, and they don't claim to be in the forefront of hippo ethology. They're zealots, really, in a good sense of the word: they've thrown themselves wholeheartedly into this unlikely mission to protect a handful of vulnerable animals. Even though they might be better trained in blackjack and geology than in mammalian biology, they've spent so many hours with these under-studied giants that they do possess unusual hippopotamus know-how.

Watching these hippos for so many years, Karen has observed some odd behaviors. She shows me a video of hippos grooming big crocodiles, licking the crocs' skin near the base of their tails. "I think they're getting mineral salt from the skin of the crocodiles," Karen suggests. She has also seen hippos tugging the prey of crocodiles, such as goats, from the reptiles' mouths, as if to rescue them.

Hippos appear to sweat blood. Paolillo has observed the phenomenon, saying they sometimes secrete a slimy pink substance all over their bodies, particularly when they are stressed. In 2004, researchers at Keio University in Japan analyzed a pigment in the hippo secretion and concluded that it may block sunlight and act as an antibiotic, hinting that the ooze might help skin injuries heal.

Like many people who take charge of wild animals, Karen has her favorites. Bob, the pod's dominant male when Karen arrived, learned to come when she called him. "He's the only hippo who ever did this for me," she says. So she was astonished one day when it seemed that Bob was charging her. She was certain she would be trampled—then realized that Bob was heading for a nine-foot crocodile that was behind her and poised to grab her. "Bob chased the crocodile away," she says.

Two years ago in February a hunting-camp guard told her that Bob was dead in the river. "My first fear was that a poacher had shot him, but then I noticed a gaping hole under his jaw from a fight with another bull. He had been gored and bled to death," Karen remembers. "I cried [because I was] so glad that he had died as a bull hippo, in a fight over females, and not by a bullet."

C & M DENIS-HUOT / PETER ARNOLD; P. 79 FRANS LANTING

Because Africa's scarcest natural resource is water, environmentalists say the hippo, or "river horse" (in the Democratic Republic of Congo, where poachers have devastated hippo populations), will increasingly come into conflict with people.

Cézanne

THE MAN WHO CHANGED THE LANDSCAPE OF ART

BY PAUL TRACHTMAN

IN THE FALL OF 1894, the American painter Mary Cassatt attended a dinner in the countryside outside Paris with a group of artists, among them the notoriously bohemian Paul Cézanne. "His manners at first startled me," she wrote to a friend. "He scrapes his soup plate, then lifts it and pours the remaining drops in the spoon; he even takes his chop in his fingers and pulls the meat from the bone. . . . Yet in spite of the total disregard of the dictionary of manners, he shows a politeness towards us which no other man here would have shown."

As Cassatt observed, there was something surprising, even contradictory, about Cézanne. He spouted profanities yet could recite long passages of Virgil and Ovid in Latin. He scorned priests but went faithfully to Mass. He hated the official Paris Salon but kept

"I will astonish Paris with an apple," Cézanne (left, at age 35, in 1874) once boasted. He arranged his still lifes carefully, with special attention to the relationship of colors, and filled them with traditional Provençal artifacts. His *Still Life with Peppermint Bottle* (detail, opposite) was painted c. 1893-95.

REUNION DES MUSÉES NATIONAUX / ART RESOURCE, NY; P. 81 NATIONAL GALLERY OF ART, WASHINGTON, CHESTER DALE COLLECTION

"There are treasures to be taken away from this country," Cézanne wrote of his native Provençal landscape, "which has not yet found an interpreter worthy of the riches it offers." He painted the French fishing port of L'Estaque (above) c. 1876-79.

submitting his work to its judges. He haunted the Louvre, copying sculptures and paintings into his sketchbooks, yet critics said he couldn't draw. He was obsessed with tradition and obsessed with overturning it. He felt himself a failure . . . and the best painter of his time.

In this centennial year—Cézanne died October 23, 1906, at age 67—two shows focus on different aspects of the career of the gutsy iconoclast who has been called the father of modern art. "Pioneering Modern Painting: Cézanne & Pissarro 1865-1885," an exhibition organized by New York City's Museum of Modern Art, is on view at the Los Angeles County Museum of Art until January 16. The show, which goes on to the Musée D'Orsay in Paris (February 28 to May 28), highlights the period of Cézanne's immersion in Impressionism, when he often painted side by side with artist Camille Pissarro. An exhibition at the National Gallery of Art in Washington, D.C., "Cézanne in Provence" (January 29 through May 7), features more than 100 paintings the artist executed in and around his hometown of Aix-en-Provence in southern France. The exhibition will move to the newly renovated Musée Granet in Aix-en-Provence (June 9 through September 17) as a highlight of a national celebration in France officially marking 2006 as the Year of Cézanne. "It was by painting his own particular, familiar landscape," says the National Gallery's Philip Conisbee (co-curator of the exhibition with Musée Granet director Denis Coutagne), "that Cézanne changed the way later generations would see the world."

PAUL CÉZANNE wanted to make paint bleed. The old masters, he told the poet Joachim Gasquet, painted warmblooded flesh and made sap run in their trees, and he would too. He wanted to capture "the green odor" of his Provence fields and "the perfume of marble from Saint-Victoire," the mountain that was the subject of so many of his paintings. He was bold, scraping and slapping paint onto his still lifes with a palette knife. "I will astonish Paris with an apple," he boasted.

A frequent contributor, New Mexico-based author and artist PAUL TRACHTMAN *wrote about Toulouse-Lautrec in the May 2005 issue.*

MUSEUM OF MODERN ART, NEW YORK, WILLIAM S. PALEY COLLECTION

In the years when his friends Manet, Monet, Pissarro and Renoir were finally gaining acceptance, Cézanne worked furiously and mostly in isolation, ridiculed by critics and mocked by the public, sometimes ripping up his own canvases. He wanted more than the quick impressions of the Impressionists (nature, he wrote to a fellow artist, "is more depth than surface") and devoted himself to studying the natural world. "It's awful for me;" he told a young friend, "my eyes stay riveted to the tree trunk, to the clod of earth. It's painful for me to tear them away. . . . And my eyes, you know, my wife tells me that they jump out of my head." He could often be found, said one contemporary, "on the outskirts of Paris wandering about the hillsides in jackboots. As no one took the least interest in his pictures, he left them in the fields."

Yet by the end of his life, Cézanne had been recognized, at least by some critics, as a true revolutionary who overturned the rules of painting and upended conventional theories of color. And his paintings were clearly an inspiration to artists who followed, including Matisse, Picasso and Alberto Giacometti.

He was a rebel from the start. Among his earliest paintings—finished when he was 23—are four huge wall panels of young women representing the four seasons. He painted them in the elegant, academic style of Ingres, so pleasing to bourgeoisie taste. They decorated the salon of the family estate in Aix. The panels were parodies—he even signed one "Ingres"—showing off his skill while disguising his mockery. In the center of the same wall, Cézanne hung a portrait he painted of his father, a hatmaker turned banker. The painting was done with a palette knife—its thick, crude slabs of paint suggesting the handiwork of a mason or plasterer. The technique had been used by Cézanne's hero Gustave Courbet, a radical painter of the previous generation, but Cézanne wielded the knife more aggressively, with quick, almost violent strokes. Referring to a portrait that Cézanne made of his sister Marie (modeled on portraits by the Spanish artist El Greco that Cézanne was copying at the time), the American artist James McNeill Whistler would later say, "If a 10 year old child had drawn that on his slate, his mother, if she was a good mother, would have whipped him."

Cézanne's technique, a style he called *couillarde*, or ballsy, suited his early subjects—murders, rapes and orgies among them. "The young Cézanne wanted to make people scream," says French art historian Jean-Claude Lebensztejn. "He attacked on all fronts, drawing, color, technique, proportion, subjects . . . he savagely demolished everything one loves." To accomplish this, says Lebensztejn, Cézanne drew on tradition, adapting themes from the erotic art of Titian and the disasters of Goya.

Cézanne's father, Louis-Auguste, tried to set the young man straight. Remember, he said, we die with genius, but we eat with money. The two were frequently at odds. Cézanne briefly studied law, as a step to joining his father's bank, but it didn't take. His boyhood friend and Aix schoolmate Émile Zola—Cézanne was once beaten up by school bullies for befriending him—was living in Paris and urged Cézanne to join him there. Cézanne's father finally agreed, and sent him off with an allowance to study art. The artist would resent this patronage all his life, even though he depended on it. His mother, Elizabeth, supported his desire to be an artist and tried to keep peace in the family by mediating between father and son.

In Paris, Cézanne, then in his early 20s, applied to the École des Beaux Arts, training ground of Salon painters, but he was rejected. "Unfortunately, he paints with excess," noted a former student of Ingres. Cézanne was soon installed in the Atelier Suisse, a studio long favored by upstarts, including Courbet. Even here, Cézanne stood out. Pissarro, who was intrigued by this "peculiar Provençal" and went to see him at the Atelier Suisse in 1861, recalled later that Cézanne's life studies "provoked roars of laughter from all the impotents of the school."

His friend Zola was one of the few to champion him. Zola had not forgotten the incident that had sealed their friendship; the day after Cézanne had been at-

Cézanne (above, top, c. 1861, at age 22) painted a portrait of his conservative, banker father (above) in 1866 reading *L'Evénement*, the liberal Paris newspaper in which Cézanne's boyhood friend Émile Zola attacked the Salon's bias and defended Cézanne's work.

RÉUNION DES MUSÉES NATIONAUX / ART RESOURCE; NATIONAL GALLERY OF ART, WASHINGTON, COLLECTION OF MR. AND MRS. PAUL MELLON

"We are perhaps all derived from Pissarro," Cézanne (below, at right, with Pissarro c. 1872) once said. The artists painted together in the countryside outside Paris; both depicted the Hermitage at Pontoise (left, Pissarro's c. 1869 view; right, Cézanne's, from 1881).

tacked for defending him, Zola had brought Cézanne a basket of apples. Late in life, Cézanne tied this incident to his still lifes, telling his friend Gasquet, "Ah, Cézanne's apples, they go far back." Now Zola, who moonlighted as an art critic, defended Cézanne's paintings—even if he didn't always understand them. (Zola and Cézanne would, in fact, become estranged in their later years after Zola published a novel that many felt portrayed Cézanne as a failed genius.)

Year after year Cézanne presented his work to the official Salon, "carrying his canvases," one critic noted, "on his back like Jesus his cross." And year after year he was rejected. In 1865 he and Pissarro, nine years his elder, began to paint together out-of-doors in villages outside Paris. The collaboration made both men more daring. From Pissarro, Cézanne picked up a sense of discipline and a habit of unremitting daily practice that would mark the rest of his life. He also began incorporating brighter colors and explored new ways of applying paint, using both brushes and palette knives. One day, a villager who watched the two artists reported: "Monsieur Pissarro, when he painted, dabbed, and Monsieur Cézanne smeared."

But in other ways the two men were similar. "They both shared in common their humongous needs, their egos," says the Museum of Modern Art's Joachim Pissarro, the painter's great-grandson and curator of the "Cézanne & Pissarro" exhibition. "They needed to be fed, like monsters, these bulks of tradition that they gulped down and re-digested in their own ways."

In March 1865, Cézanne wrote a note to Pissarro about the work he and another young painter were submitting to the Salon: "On Saturday we are going to the barrack of the Champs-Elysees to bring our canvases, which will make the Institute blush with rage and despair." But it was Édouard Manet who made the crowds blush that year. Salon officials accepted his painting of a naked courtesan, *Olympia*, an adaptation of a Titian Venus but painted without the conventional refinement. (Nearly a decade later, in 1874, Cézanne, who was tired of hearing Manet's canvas praised, would paint a retort to Manet he titled *A Modern Olympia*. He wanted, wrote Cézanne biographer John Rewald, "to create an Olympia more female, more attractive and more desirable than the proud courtesan of Manet." But when Cézanne's version was displayed in Paris, critics had a field day. Cézanne, wrote one, "can only be a bit of a madman, afflicted while painting with delirium tremens." Even Pissarro referred to it as "a five-footed sheep.")

Though Cézanne continued to paint with Pissarro, it was Manet he considered the leading modern painter—and the

NATIONAL GALLERY, PRAGUE; VON DER HEYDT-MUSEUM WUPPERTAL, GERMANY; PRIVATE COLLECTION, ROGER-VOILLET, PARIS / BRIDGEMAN ART LIBRARY

man to beat. One evening in the early 1870s, according to Claude Monet, Cézanne made the rounds at the Café Goerbois in Paris shaking everyone's hand. But when he came to Manet he tipped his hat and said, "I won't offer you my hand, Monsieur Manet. I haven't washed in eight days." It was a gesture both of respect and insolence, says Jean-Claude Lebensztejn: "Manet haunted Cézanne."

Cézanne was nothing if not a loner. Friends, admirers, other artists were suspect: "They want to get their hooks into me," he complained. "The meanness of people is such," he wrote in one of his last letters to his son, "that I should never be able to get away from it—it is theft, complacency, infatuation, violation, the seizing of your work." He worried that other artists would steal his secrets—especially his ideas about color—and was convinced that Paul Gauguin had done just that. He disliked being touched (even his son would ask permission before taking his arm), and he was fearful of women. "Women models frighten me," he once said, "you've got to be on the defensive all the time." On a rare occasion when he hired one, he panicked when she began to undress and pushed her, half naked, out the door of his Paris studio. When, around 1869, he met and fell in love with Hortense Fiquet, a 19-year-old model 11 years his junior, he took great pains to hide her from his father (who still held the purse strings). They lived apart as much as together during their 37-year relationship, even after their son, Paul Jr., was born in 1872. And though Fiquet, a tall and handsome brunette whom he finally married in 1886 (a few months before his father died), apparently had no interest in his paintings, she put up with his quirks, didn't interfere with his work and posed for him for hours on end. She stares out from the many portraits he made of her looking bored or pained. "Be an apple!" Cézanne would tell his sitters. Her patience helped make him a master of the modern portrait.

When the German poet Rainer Maria Rilke, who said that Cézanne's paintings were one of the principal influences on his poetry, saw the portrait of Fiquet known as *Madame Cézanne in a Red Armchair* (left), painted circa 1877, when Cézanne was about 38, he wrote: "It is the first and ultimate red armchair ever painted. . . . The interior of the picture vibrates, rises, falls back into itself, and does not have a single unmoving part."

Cézanne was constantly seeking new ways of handling form and perspective. And in many of his canvases he succeeded in creating a new sense of space. Standing in front of *Landscape, Auvers-sur-Oise* (1874) at the Museum of Modern Art show, Joachim Pissarro said: "In this landscape, try to figure out where you are sitting. Are you sitting on the edge of the wall? Are you falling off the side of the path? It's not so dramatic that it gives you a sense of vertigo, but still, it's completely incomprehensible, it's a sense of being above the void! This is where Cézanne is totally a key to Modernism."

Cézanne's growing mastery did not ease his brooding sense of failure. On his first trip to Paris, in 1861, he had ripped up an unfinished portrait of Émile Zola. Two decades later, it was Madame Zola's turn. As she posed for him in her garden, Cézanne suddenly poked holes in the canvas, broke his brushes and stalked off. Renoir recalled once retrieving a scrap of paper outside Cézanne's studio in Aix—"a most exquisite watercolor [he] had discarded after spending twenty sessions on it."

"My hair is longer than my talent," Cézanne complained in his 20s. At 50, he wrote that "the many studies to which I have dedicated myself have given me only negative results." And in 1905, a year before he died, he lamented, "My age and my health will never allow me

Cézanne's mistress, Hortense Fiquet, posed for *Madame Cézanne in a Red Armchair* c. 1877 nine years before they wed. "Be an apple," Cézanne would say.

MUSEUM OF FINE ARTS, BOSTON, BEQUEST OF ROBERT TREAT PAINE, 2ND

In *The Garden of Les Lauves*, c. 1906 (above), says co-curator Philip Conisbee, Cézanne's deep feeling for nature is translated into a series of abstract color patches that "seem to anticipate the art of a far later era." *The Gardener Vallier* (below) was painted 1902-06.

to realize the artistic dream I have pursued throughout my entire life."

Cézanne's Impressionist friends took a different view. "How does he do it?" Renoir marveled. "He can't put two touches of paint on a canvas without success." On another occasion Renoir declared, "I don't think you can find any artist who compares with Cézanne in the whole history of painting." Pissarro said, "If you want to learn to paint, look at Cézanne." But Cézanne, it seems, couldn't take a compliment. Monet wrote about an incident at a dinner with a group of artists at his home in Giverny. When Monet started to tell Cézanne of his friends' love and admiration, Cézanne interrupted. "You, too, are making fun of me!" he protested, grabbing his coat and rushing out the door.

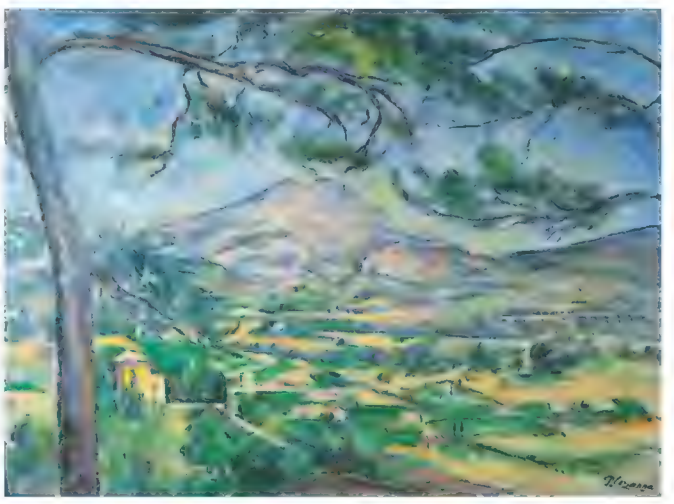
It was the impossibility of the task Cézanne had set for himself that accounted for his sense of failure. He called himself "a slave to nature," but he knew that he could never completely capture the natural landscape on canvas. "Art is harmony parallel to nature," he once said.

As he moved beyond Impressionism, Cézanne began investigating new ways to stimulate the eye, painting with touches and patches of color in carefully calculated juxtaposition to one another. He was looking for a new visual logic, as if to say that art lies, as he put it, "in what our eyes think." (Kathryn Tuma, assistant professor of modern art at Johns Hopkins University, says that

PHILLIPS COLLECTION, WASHINGTON, DC; NATIONAL GALLERY OF ART, WASHINGTON. GIFT OF EUGENE AND AGNES E. MEYER

looking at *The Red Rock*, a c. 1895 Cézanne landscape, in natural light at the Orangerie in Paris several years ago, she saw "dynamic, flickering vibrations of color appear as if floating in front of the surface of the work"—an effect she likens to Rilke's description of seeing vibrations in *Madame Cézanne in a Red Armchair*.)

Cézanne, according to one account, "would sit motionless in the landscape, like a lizard in the sun, patiently waiting and watching the shifting scene for the appearance of what he wanted to catch in paint." Indeed, he once told a friend: "I would rather smash my canvas than invent or imagine a detail. I want to know."



Painting as a search for knowledge is something that would engage many artists of the next generation—and Cézanne's art may be easier to grasp in retrospect, through their eyes. Mondrian, who couldn't stop reworking his later canvases, explained, "I don't want pictures. I just want to find things out." And Picasso remarked, "One doesn't make a painting, one makes studies, one never ends getting near." James Lord, the biographer of Alberto Giacometti, says the artist often called his sculptures failures. "But that was only because he wanted to do the impossible," Lord notes. "He wanted to make the impossible possible, and nobody can do that." The same was true of Cézanne.

DURING THE LAST DECADE or so of his life, Cézanne lived mainly in his hometown of Aix. There he painted his monumental bathers, his astonishing apples, his moving portraits, his Provençal scenes and, above all, his beloved mountain. "See this

One of Cézanne's favorite subjects was Mont Sainte-Victoire (above, a c. 1887 rendering; below, *Mont Sainte-Victoire Seen from Les Lauves,* 1904-06). "I don't think you can find any artist who compares with Cézanne in the whole history of painting," said Renoir.

SAMUEL COURTAULD TRUST, COURTAULD INSTITUTE OF ART GALLERY, LONDON; KUNSTMUSEUM BASEL

Sainte-Victoire," he told a friend, "what lift, what imperious thirst for the sun, and what melancholy in the evening when all her weight falls back. . . . Her bluish shadows are part of the air's ambient breathing."

In his black frock coat, he looked like a banker as he painted. He was so reclusive that some in the art world thought he had died. For a time, his work could be found only in the shop of an eccentric Paris art dealer, Père Tanguy, who had traded Cézanne art supplies for paintings. When Tanguy died, however, a more ambitious dealer, Ambroise Vollard, took possession of the paintings and tracked down the artist in Aix. He proposed a show, and in 1895 Cézanne, then 56, at last astonished Paris with his first one-man show, an exhibition of some 150 paintings, including a number of his still lifes of apples. The artist, wrote one critic, is "destined for the Louvre." But Cézanne stayed away, leaving the business end of dealing with Vollard to his 23-year-old son, who had remained in Paris.

After Cézanne's mother died, in 1897, the artist and his two sisters sold the family estate, and he moved to an apartment on the street where his father's bank had been. Vollard was selling his work, even raising the prices, and in 1899 he came to Aix and bought everything in the artist's studio.

In 1901, Cézanne oversaw the construction of Les Lauves, a studio on a hill overlooking the town, close to his favorite view of Sainte-Victoire. By then, his fame had spread and young artists, including Emile Bernard, came to learn from him. But his time was running out. "Someone else will accomplish what I have not been able to do," he said. "I am probably only the primitive of a new art."

Cézanne once spoke of what he called Titian, Rubens and Rembrandt's "sublime compromise"—the painters' ability to express profound emotion in a very personal way yet with a realism faithful to nature. In the end, Cézanne too achieved this compromise, but in a radically new fashion. "In the late portraits of Cézanne's gardener Vallier," says Philip Conisbee, "the encrusted surface of the old man, his gnarled hands, the ravaged face with its shadowed eyes, recall the late portraits of Rembrandt. A comparable feeling of tragedy, of impending death, is powerfully present. At the same time, the views he painted from the terrace of Les Lauves are radiant. In *The Garden of Les Lauves*, Cézanne's deep feeling for nature is translated into a series of color patches so abstract that, in hindsight, they seem to anticipate the abstract art of a far later era."

In his last letter to his son, Paul, a week before his death in October 1906, Cézanne (in April 1906, outside Les Lauves, the studio he built in Aix-en-Provence) wrote, "I continue to work with difficulty, but in spite of that something is achieved."

BILDARCHIV MARBURG / ART RESOURCE

On October 15, 1906, Cézanne climbed the winding road that led from his studio to his favorite lookout to paint his mountain, as he'd done a hundred times before. But while he worked, he was caught in a sudden thunderstorm and collapsed. A passerby found him and carried him, half conscious, back into town on a laundry cart. "I want to die painting," he had told a friend. His last letter was to a dealer who supplied his paints. "It is now eight days since I asked you to send me ten burnt lakes no. 7 and I have had no reply," he wrote. "Whatever is the matter? An answer and quick, please." He died of pneumonia six days after writing the letter.

A year later, a major exhibition of Cézanne's works opened at the Salon d'Autumne in Paris. Picasso, Braque and Matisse were among those crowding into the show—and stealing his secrets. But they would never steal his grandeur. Rilke, too, was there. "Not since Moses," he wrote to his wife, "has anyone seen a mountain so greatly."

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FULL SPEED AHEAD

A railroad, finally, crosses Australia's vast interior—linking not only the continent's south with its north, but also its past to its future

BY SIMON WORRALL

PHOTOGRAPHS BY PABLO CORRAL VEGA

Once the end of the line, the desert oasis of Alice Springs is now merely the halfway point on the rail line that knits Australia together.

Residents bid goodbye to the first transcontinental train ever to pass through the northern town of Katherine. The railroad now resupplies a nearby squadron of F/A-18 fighter aircraft.

MICHAEL MARSCHALL / NEWSPIX

EARLY ON A WARM January morning, I boarded a freight train emblazoned with aboriginal designs in Adelaide on Australia's south-central coast, bound for Darwin, 1,800 miles away. Ours would be the first train ever to cross the length of the Australian continent, and as we clattered toward Australia's desert interior, huge crowds of people, whites and Aborigines alike, lined the tracks to wave and cheer. They jammed overpasses. They stood under eucalyptus trees or atop utes, as Australians call pickup trucks. They clambered onto rooftops. Schoolchildren waved flags, mothers waved babies and, as the train rushed under a bridge, a blind man waved his white stick jubilantly above his head.

The first hours of the journey took us through the wheat-growing district of South Australia. The harvest was in, and the fields were covered in fawn-colored stubble. Near Quorn, a tornado spiraled up, like a white cobra, scattering chaff across the ground. As we approached the Flinders Ranges, a wall of rock that glowed purple in the evening light, a ute appeared at the side of the track with a man and a woman standing on the back. They held up hand-lettered signs. Hers said, "AT." On his was written: "LAST."

Trains have been rolling between Adelaide and Alice Springs, an oasis of 28,000 in the heart of the continent, since 1929, so our journey wouldn't officially make history until we traveled beyond The Alice, as the town is known locally. But that didn't seem to matter to the exuberant crowds, nor to the local politicians who gave speeches at each stop, taking their cue from Prime Minister John Howard, who had hailed the train as a "nation-building project." Although 90 percent of the country's population lives in coastal cities, making Australians the most urban people on the planet, the red center, as the desert interior is known, has always been their defining landscape. "We're so aware of the emptiness," says Adelaide-based economist Richard Blandy. "To cross that emptiness is emotionally significant for Australians."

Australians have been dreaming of a railway across the red center since an Adelaide businessman first proposed it in 1858. The government promised to build it in 1911, but droughts, two world wars, economic downturns and doubts about its viability kept the project on the drawing board. Finally, in 1999, government and business leaders got behind the $965 million land bridge from the prosperous south to the increasingly important north, home to vast natural resources and a gateway to Australia's trading partners in Asia. (In March 2003, ten months before our train rolled, Australia and East Timor agreed to divvy up an estimated $37 billion worth of fossil fuels in the waters between them.)

Both SIMON WORRALL, based in England, and PABLO CORRAL VEGA, based in Ecuador, have been widely published in magazines around the world. This is the first SMITHSONIAN article for each.

The transcontinental also has a military function. The Northern Territory has always been the most vulnerable part of the continent; Darwin is closer to Indonesia's capital, Jakarta, than to Australia's capital, Canberra. To counter today's threats—particularly from terrorist groups operating within Indonesia—the railway will provide supplies to a squadron of F/A-18's based near the town of Katherine and also to the armed forces, many of which are based in the Northern Territory.

More broadly, says Australian historian Geoffrey Blainey, "there's something symbolic about a railway. A road usually follows bush trails or other paths, but a railway is created in one grand gesture. We're a visual people, and a line drawn across the map, almost dead center, captures the imagination." Says Mike Rann, the premier of the state of South Australia: "Australians tell stories about their ancestors and the outback. So this train is not just about the future. It helps tell the story of our past, as well. It helps tell the Australian story."

"OK, FELLAS," said Geoff Noble, the locomotive engineer, "let's make some history!" We were stopped a few miles south of Alice Springs, on the second day of our journey, and I could hear the high-pitched whine of crickets, like a dentist's drill, and feel the heat hammering down on the cab. He eased the throttle of the 3,800-horsepower diesel into gear, and we began moving again.

Among the crowd waiting to greet us as we got off the train in Alice Springs were camels decked with brightly colored saddlebags, tended by a bearded man in a blue turban and flowing robes. He was Eric Sultan, a descendant of one of the cameleers who helped found the town in the late 19th century. Camels first caught on as pack animals in the Australian desert beginning in 1840, and by 1910 some 12,000 had been brought in, mostly from Peshawar in present-day Pakistan. The camels hauled wool and gold, supplied cattle ranches and aboriginal missions, and helped build both the Overland Telegraph in 1871 and the first railway from Adelaide to Oodnadatta in the 1880s.

By the 1930s, the internal combustion engine had put the cameleers out of business; they turned their animals loose, and today there are some 650,000 feral camels in central Australia. They've long been regarded as a nuisance, because they trample fences and compete with cattle for food. Now, in an ironic twist, an Alice Springs company has begun shipping the animals to countries in the Middle East.

Camels (in 1926) once ferried mail through the desert. The new passenger train takes its name—the Ghan—from Australia's camel drivers, most of whom emigrated from Afghanistan.

AUSTRALIAN INLAND MISSION COLLECTION / NATIONAL LIBRARY OF AUSTRALIA

THE ABORIGINES, Australia's indigenous people, settled on the continent at least 24,000 years ago from Papua New Guinea. According to aboriginal legend, the landscape was formed by creatures such as the Euro, a large kangaroo, that traveled particular routes, known as songlines. A songline can stretch for hundreds, even thousands, of miles, passing through the territory of several different clans or family groups. Each aboriginal clan must maintain its part of the songline by handing down the creation stories.

Before the first bulldozer began work on the transcontinental railroad, local authorities commissioned a survey of the aboriginal sites that would be affected. Every sacred site and object identified by the survey was bypassed. To avoid a single corkwood tree, an access road was shifted some 20 yards. To protect an outcrop of rock called Karlukarlu (or as it's known in English, the Devil's Marbles), the entire rail corridor was moved several miles to the west.

As a result of this flexibility, aboriginal communities have largely embraced the railroad and liken it to a songline. "It's two lines going side by side," said Bobby Stuart, an elder of central Australia's Arrernte people. "There's the white line. And there's the aboriginal line. And they're running parallel."

The Northern Territory has the highest concentration of indigenous people in Australia: almost 60,000 out of a total state population of about 200,000. Thanks to the Aboriginal Land Rights Act of 1976, the Aborigines now own 50 percent of the Northern Territory, giving them an area roughly equivalent in size to the state of Texas. But poverty and prejudice have kept them exiles in their own country.

Near Alice Springs is an aboriginal housing project of some 20 cinder block dwellings, the Warlpiri camp, where men and women sleep on filthy mattresses on porches. There are flies everywhere. Mangy dogs root among the garbage. Burned-out wrecks of cars lie with doors ripped off and windshields smashed.

The Aborigines' plight is Australia's shame. For the first hundred years of white settlement, they were regarded as animals, and were shot, poisoned and driven from their land. During much of the 20th century, government officials routinely separated aboriginal children from their families, moving them into group institutions and foster homes to be "civilized." Aborigines were not granted the right to vote until 1962. The first Aborigine didn't graduate from an Australian university until 1966.

Trains have crossed Australia from east to west and back since 1970. But the north-south line was slower in coming: the government first vowed to build it nearly a century ago.

MIKE REAGAN

Sweeping civil rights legislation in 1967 marked the beginning of a slow improvement in their status, but aboriginal life expectancy is still 17 years less than the rest of the population. (In the United States, Canada and New Zealand, which also have relatively large indigenous populations, life expectancy of indigenous people is three to seven years less than that of the general population.) Aboriginal rates of tuberculosis rival those of the third world. Rheumatic fever, endemic in Dickens' London, is common. Diabetes, domestic violence and alcoholism are rife. "There are dozens of places here in the Northern Territory where there is no reason for people to get out of bed in the morning," says Darwin-based historian Peter Forrest, "except perhaps to play cards or drink a flagon of wine."

They are so disenfranchised that on my journey in the Northern Territory (see p. 99), no Aborigine sold me a book, drove me in a taxi, sat next to me in a restaurant or put a chocolate on my hotel pillow. Instead, I saw aboriginal men and women lying in the street at midday, apparently passed out from drinking, or sitting on the ground staring into space as white Australians hurried past.

The transcontinental railroad has sent a ray of hope into this gloomy picture. Indigenous people were guaranteed jobs, compensation for the use of their land and 2 percent equity in Asia Pacific Transport Consortium, the railroad's parent company. For the first time, Aborigines are shareholders in a major national enterprise.

AS THE TRAIN LEFT ALICE SPRINGS and began to climb the Great Larapinta Grade up to Bond Springs, at 2,390 feet the highest point on the line, the excitement onboard grew palpable: we were the first people to cross this part of Australia by train. My favorite perch was an open doorway between two carriages. The engineer had warned me that if the driver braked suddenly, I could be pitched onto the track. But I spent hours watching what the Australian novelist Tom Keneally called the "sublime desolation" of central Australia, as we thundered across a wilderness of rust-colored dirt, saltbush and spinifex grass stretching toward a horizon so flat, and so sharply defined, that it looked as if drawn with a pencil. I saw no sign of human life: not a house, not a person, not a car, just some scrawny emus, which scampered into the bush at our approach.

The emptiness took on even more menace about three in the afternoon when our train broke down—and with it the air conditioning. (Our 50-year-old German-built car had come to Australia as part of World War II reparations.) As we sat in the

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carriage with sweat pouring down our faces, I remembered that explorer Charles Sturt's thermometer had burst in 1845 during his journey across the desert. "The ground was so heated," he wrote in his journal, "that our matches, falling on it, ignited."

It was a searing reminder that building this railroad had required epic endurance, teamwork and hard yakka, as Australians call tough physical work. Six days a week, around the clock, a workforce of 1,400 labored in temperatures that sometimes reached 120 degrees Fahrenheit, laying nearly 900 miles of steel railway across the heart of Australia in just 30 months. There were no mountains to cross or giant rivers to ford—just deadly snakes, blowflies, monstrous saltwater crocodiles (at the Elizabeth River, a loaded rifle was kept close at hand in case workers who ventured into the water met up with a croc), and one of the most extreme climates in the world. Here it was the heat. And in the tropical upper half of the Northern Territory, known as the top end, there are only two seasons: the dry and the wet, as Australians call them. Between April and September there's no rain at all, and during the next six months you need a diving suit to pick a tomato.

At their peak, the construction crews were laying more than two miles of track per day, and with every mile racist stereotypes of feckless Aborigines drunk on grog or simply disappearing from work, known derisively as "going walkabout," were overturned. "There has never been a major project in Australia with this sort of indigenous participation," says Sean Lange, who ran a training and employment program for the Northern Land Council (NLC), an aboriginal land management organization based in Darwin. The NLC had originally hoped that 50 Aborigines would work building the railway; more than three times that many found jobs. The railroad-tie factory in the town of Tennant Creek, where the workforce was about 40 percent aboriginal, was the most productive that Austrak, the company that ran it, had ever operated.

One aboriginal worker was Taryn Kruger, a single mother

Workers finished laying the track (above) in two and a half years—five months ahead of schedule. The route veered to avoid sacred aboriginal sites, such as Karlukarlu (below).

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Jobs from the rail's construction proved a boon to Aborigines, many of whom live in grim settlements (above) where unemployment is rife. Elders such as Bobby Stuart (below) hope that the train will bring more work to the once-isolated Northern Territory.

of two. "When I started at the training class in Katherine, there was only one white bloke," she told me, a pair of welding goggles round her neck. "On the first day he looked round the classroom and said, 'Hey, I'm the only white fella!' So I leant over to him and said: 'Hey, if it helps you, I'm the only girl!'"

Her first job on the railroad was as a "stringliner," signaling the drivers of bulldozers and scrapers grading the track how much earth they had to remove. "I loved the rumble," she said, referring to the sound made by the earthmoving vehicles. "When they went past, I would reach out and touch them. It was a rush." Kruger eventually got to drive a piece of heavy machinery called a "cat roller," which she pronounces with the same relish that others might use for "Lamborghini." Now, she said, "sometimes I take my children up to Pine Creek. There's a bit where you can see the railway from the road. And they say: 'Mummy, you worked there!' And I say: 'That's right, baby. And over here too. Look! You see that bit of track down there? Mummy helped build that.'"

AFTER THE TRAIN had spent an hour sitting motionless in the outback's infernal heat, a sweating Trevor Kenwall, the train's mechanic, announced between gulps of water that he had fixed the problem.

At our next stop, Tennant Creek, some of the 1,000 or so people who greeted our arrival stared at the locomotive as if it had arrived from outer space. Squealing children waved balloons. A group of elderly women from the Warramunga tribe performed a dance, naked except for saffron-colored skirts and white cockatoo feathers in their hair.

As we headed north, the land seemed emptier and more mysterious. We were now entering the top end, where the wet season was in full deluge. With the water came wildlife: ducks, turkeys, hawks and nocturnal birds called nightjars rose up in a commotion of wings. A kangaroo appeared at the side of the track, mesmerized by the locomotive's headlamp. My stomach tightened. A conductor switched off the light to break the spell and give it a chance to escape, but moments later there

"I DANCED FOR MY LAND"

The railroad opens new worlds for archaeologists and Aborigines alike

A FEW WEEKS before riding the first train to cross Australia's red center, I joined Darwin-based archaeologist Steve Sutton in a helicopter that chased its shadow across a vast sun-scorched wilderness of tan grass and cinnamon-colored dirt north of Alice Springs, a region dotted with ironwood, screw-palm and woolybutt trees that looked like rows of burned matchsticks stuck in the ground. The only creatures we saw were an occasional mob of kangaroo or a flock of cockatoos that scattered over the treetops like white petals. At one point we swooped down over rows of blade-shaped magnetic termite mounds, which rose from the ground like the tombstones of a vanished people.

Landing at a place called Leight Creek Seven, about 20 miles north of Katherine, we walked around a quartzite boulder about 15 feet high and 60 feet in circumference, with peach-colored rock that looked like a giant fist. On one wall there were traces of red pigment.

"This would have been a shelter, a place to sit and eat or skin a wallaby," Sutton said, as we took cover from the heat in a pool of shade on one side of the boulder. "It'll stay shady till mid-morning even in the hot time of the year. And there's a creek over there, so there's water." He stooped down and picked up a sliver of rock. "A quartzite point," he said, pushing his bush hat back on his head. "Perhaps for a spear."

Before the coming of the railroad, huge chunks of the Northern Territory had never seen an archaeologist. "It was basically a huge transect survey," said Sutton, pointing at the rails. "Every inch of the new corridor was surveyed by an archaeologist." Now we know far more about the history and culture of the aboriginal peoples of the Northern Territory.

FOR GEORGE HUDDLESTON, an elder of the Wagiman people near Pine Creek, the building of the transcontinental meant the chance to come home. "We had a big *corroboree*," he said, using the aboriginal term for a traditional ceremony of dancing and singing, as we drove down a parched dirt road en route to his camp. "I danced for my land."

When Europeans began to move into the Northern Territory in the 19th century, they appropriated whatever land they wanted. They fenced off millions of acres to create vast ranches—cattle stations, as Australians call them.

Huddleston, whose aboriginal name is Jabal, reminded me of Harpo Marx: an elfin man with the gait of a dancer, a shock of wild, curly white hair and a face that was always breaking into a smile. He grew up on a white-owned cattle station, and when he was 7 years old the owner tied him to a fence and bullwhipped him because Huddleston had dared to criticize him. From his teens, Huddleston worked as a stockman, as Australians call cowboys, riding hundreds of miles a day in searing heat and sleeping in a swag, or bedroll, on the hard, stony ground. The top of his right thumb was torn off when it was smashed in a gate by a wild buffalo.

Back at his camp, as we sat around a blazing fire, he told me that despite the terrible beating he had received as a child, he had loved the white rancher like a father. "He brought me up," he said. "He taught me everything I know about horses and cattle." A few minutes later, Huddleston walked out into the darkness at the edge of the fire and began calling across the bush. At first, I thought he was summoning an animal. No, he said. "I'm talking to my spirits." Aborigines have a deep fear of the spirit world, and Huddleston wanted to make sure they were not going to disturb us. "They know my mother's spirit, and my spirit. So this way everyone keeps quiet."

In 1991, Huddleston came back to the land where he was born and built a wurley, a shelter made of gum tree branches and leaves. "I came out here with nothing. No tractor, no motorcar, just my tucker [food], my swag and my body. I slept on the ground, made a big fire. I caught barramundi fish and turtle in the river, and kangaroo and porcupine." Nearby sits a rusting steam engine manufactured in England a century ago, which was hauled out here in the 1950s by three Scottish brothers who dreamed it would make their fortune. Like so many other dreams of wealth that have swept through the Northern Territory, theirs was swallowed by heat, floods and loneliness. A gum tree now grows inside the boiler.

George Huddleston plans to raise cattle on his land.

The railroad has made possible a new set of dreams. In 1976, the Aboriginal Land Rights Act returned nearly 1,800 square miles of land to the Wagiman. But they had no money to develop it until the rails were routed through their land. When that happened, Huddleston says, the Wagiman "mob" (as Aborigines like to refer to themselves) received $49,000 as compensation from the Asia Pacific Transport Consortium, which oversaw the railway project. The first thing Huddleston did with his portion of the payout was build a fence.

"It's five miles in all," he said as we stopped by a barbed wire fence that tapered away into the bush. The fence was dead straight, and the barbed wire was as tight as piano wire. Next year, the paddock it encloses will be home to 700 head of Brahman cattle. "This is where I'll do the mustering and put my brand on. The cattle will stay here through the dry. Then we'll sell them in Katherine or Darwin. The money will go back into the land."

He's already helped set up a ranger program for young aboriginal men, and one day he hopes to open his land to tourists. "I'm a free man," he said. "I've got my own fence. I'm gonna be here all the time now. I'm going to make a story of my land."

—*SIMON WORRALL*

After a two-day trip, the train reaches its northern terminus, Darwin (below), a tropical city closer to Indonesia's capital than to Australia's other major cities. The rail link eases the isolation of the north, still the most vulnerable part of the continent.

was a loud bang, then a sickening sound.

Opening my cabin blinds at the start of our final day, I looked out on a wet, green world. Cockatoos zipped in and out of the trees. A wallaby found refuge under a palm tree. The humid air smelled of moist earth and vegetation. "Hallo train . . . welcome to Darwin!" a sign said as we pulled into the new Berrimah Yard freight terminal, the end of our journey across Australia. Darwin is Crocodile Dundee country, a hard-drinking, tropical city of 110,000 people where the average age is 32, men outnumber women by almost two to one, and the bars have names like The Ducks Nuts.

Before the Stuart Highway into Darwin was made into an all-weather road in the 1970s, the city was regularly cut off during the wet season. It used to be said that there were only two kinds of people in Darwin—those paid to be there and those without enough money to leave. Today, the city wants to be a player in Australia's economy, and the transcontinental is a key part of that dream. "For the first time in our history, we're connected by steel to the rest of Australia," said Bob Collins, who as federal transport minister in the early 1990s was a passionate advocate of the project. "And that's exciting."

Collins, a white man who is married to an aboriginal woman, applauds what the train will do for indigenous people. Sean Lange says the coming of the railroad may spawn as many as 5,000 jobs. "There are 4 or 5 billion dollars' worth of projects happening here in the Northern Territory over the next five years," he says. "We're determined that indigenous people are going to get some of those jobs."

The railroad will also become part of the aboriginal story: a steel songline across the heart of their world. "It will be incorporated into aboriginal knowledge," says anthropologist Andrew Allan. "Aboriginal people who have worked on the railroad will recall it, and tell stories about it. And they'll tell their children. And so the railway will become part of the historical landscape."

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SWINGING 60s?

THE FIRST BABY BOOMER LOOKS BACK—
AND FORWARD—ON THE EVE OF A MILESTONE **BY LANDON Y. JONES**

Kathleen Casey-Kirschling (with husband, Patrick, on their aptly named trawler) says life has been "a great ride."

CHRIS HARTLOVE

In the first moments of January 1, 1946, a seven-pound five-ounce girl was born at St. Agnes Hospital in Philadelphia. The doctors recorded her name as Kathleen Casey and said she had arrived just one second after midnight. That made Kathleen, the daughter of a Navy machinist's mate and his homemaker wife, the hospital's first baby of the year. The next day the *Philadelphia Inquirer* ran its customary breezy item about the New Year's Day births ("3 New Babies All Doing Well"), with Kathleen listed as the first arrival of 1946.

Thus was born a demographic revolution. Over the following months, babies began filling maternity wards across the country. Live births in the United States surged from 222,721 in January 1946 to 233,452 that May—which, not coincidentally, was just nine months after the end of World War II. That October, an astonishing 339,499 babies were born. At a time when almost no one expected it—birthrates had been falling for most of the previous two decades, and the Census Bureau had predicted that the American population would soon begin to decline—the great postwar baby boom had begun in a torrent of diapers, dishes and debts.

By the time the 1940s ended, some 32 million babies had been born, compared with 24 million in the 1930s. The overall American population was growing twice as fast as before the war, and the rate of increase was the greatest since the first decade of the 20th century. By 1953, the U.S. population had added more people in the previous 7 years than in the 15 years before the baby boom, and hit 160 million. In 1954, annual births passed four million for the first time, and they didn't drop below that mark until 1965. By then, four of every ten Americans were under the age of 20.

Suddenly an aging nation had become young. The 76 million baby boomers born between 1946 and 1964 constituted a boisterous, bumptious new nation within the old. Fifty percent larger than the generation before it (and 15 percent larger than the one after it), the baby boomers became the indigestible pig in the python, as demographers describe it, occasioning upheaval and discomfort as they passed through every stage of life. In just a few years, America shifted to a new landscape (suburban), a new living room (TV-dominant) and a new soundtrack (rock 'n' roll)—and that was even before most boomers were old enough to go to college and get a job (which boomer women did in unprecedented numbers).

Which brings us back to Kathleen Casey, the little girl born in the first

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"Pretty, peppy and can talk her way out of any situation," her 1964 yearbook said.

seconds of the first day of 1946. On January 1, 2006, she'll turn 60, once again on the cusp of the clamorous cohort behind her. It's one thing to track the course of a generation, but quite another to track the life of an individual.

I've kept in touch with Kathy occasionally since I first wrote about her birth in my book *Great Expectations: America and the Baby Boom Generation* (1980), which popularized the phrase "baby boomer." Like most writers, I wanted a way to put a human face on a social phenomenon—and who could be more appropriate than this veteran's daughter born one second after midnight? To be sure, given the vagaries of maternity-ward record-keeping, other early-arriving boomers might also claim the distinction of First Boomer. But Kathy had been publicly recognized as born in the first moments of the postwar era, and that was good enough for me. She was my ur-boomer.

"HELLO?" A child's voice answered the phone. I had just called the residence of Kathleen Casey-Kirschling in a New Jersey suburb of Philadelphia. The voice belonged to one of Kathy's five grandchildren, all of whom the First Boomer was babysitting that day. Soon Kathy herself was on the line, bringing me up to date on her life ("a great ride"). Later, when I met with her, she had not changed much from the vivacious, optimistic woman whose 1964 high-school yearbook described as "pretty, peppy and can talk her way out of any situation."

She was raised by Irish Catholic parents in the working-class suburb of Pennsauken, New Jersey. There, she was a self-described "tomboy, a typical '50s kid" who walked to her parochial school and "never locked the door at home." Like other children of the cold war, she went through A-bomb drills at school. "They were very scary, and the nuns made it scarier," she said. "They would line us up in the halls, facing the wall with our arms over our heads. We never knew why we were doing it."

When "The Mickey Mouse Club" went on television 50 years ago, Kathy became "obsessed" with Annette Funicello. Later, she poufed her hair into a bubble and with her girlfriends took the bus straight from school into Philadelphia to dance on Dick Clark's "American Bandstand" with Justine and Kenny and the other regulars on the show. "We were so excited to be on television," she recalls. "During the week we would practice our dance moves holding on to doorknobs instead of boys."

The ur-boomer at age 9, in 1955: after diapers, before "American Bandstand."

KATHLEEN CASEY-KIRSCHLING COLLECTION

Like most boomers, Kathy sees herself as a unique individual and not a data point. But when she runs the film of her life in reverse, she can see that many decisions she made about career and family fell within the gravitational pull of the issues and dilemmas of her generation.

After graduating from Camden Catholic High School, she took a job as an X-ray technician. Kathy's mother had not gone to college but one of Kathy's grandmothers had, and "she had always told me that I could do whatever I wanted to do," she says. "My

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friends and I were all in the college-prep curriculum in high school. But there was always that unspoken message that what we were really supposed to do was to get married." At work she met a medical intern named Charles Wilkins, and married him in 1966, when she was just 20 years old.

One month after the wedding, Charles shipped off to Vietnam's Central Highlands as the only doctor in an Army battalion of 500 men. "It was an awful time," Kathy says. "All my friends were opposed to the war, and I was opposed to it. But here I had a husband who was in it." She felt uncomfortable about the antiwar protests and drug use swirling around her in the 1960s ("My best friend burned her bra and smoked pot, but I didn't"), but she could not avoid the disruptions of the time. She still remembers sadly watching the train bearing the casket of the assassinated Robert F. Kennedy pass through the Army's Aberdeen Proving Ground in Maryland in 1968.

After her husband returned from Vietnam in 1967, they had two daughters, Beth and Jen, born in 1968 and 1970. But Kathy was looking for more: "I decided I wanted to do something on my own and not be beholden to any man," she says. "I wanted to be more independent from men than my mother ever could have been. My friends and I felt that we were equal to men in every respect."

Kathy started going to night school at a community college and eventually earned a master's degree in health education at St. Joseph's University in Philadelphia. "It was very hard," she says. "My husband was in his residency, and I virtually raised my children by myself. I not only drove them to softball, I was their softball coach. And after they went to bed I would start to study."

Along the way, she acquired two boomers' badges—a BMW and a divorce. Kathy had been trained to believe that ending a marriage would be "worse than death," but by the time her marriage fell apart, in 1985, divorce had become commonplace. One in five

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American women in Kathy's age group has divorced at least once.

The combination of divorce, career and several failed pregnancies limited her childbearing to two daughters—typical of her generation but fewer than her own mother's three children, which was typical for *her* generation. (The baby boom resulted not from an increase in large families but from an increase in the percentage of women who married, almost all of whom had two or three children.) Kathy says she is comfortable with a family smaller than she had hoped: "I always say that God gives you what you can handle."

SHE LIVES TODAY with her second husband, Patrick Kirschling, a marketing professor, in Cherry Hill, New Jersey, not far from her childhood home. In early 2005, Kathy retired after 13 years of teaching nutrition in the public schools. "There was just too much stress and politics, and I wanted more flexibility to do things that are important to me," she says.

Kathy and Patrick recently caught the early ripples of another wave generated by the aging baby boomers: real estate. Having pulled their money out of the stock market before the dot-com collapse, they had something to invest. "I kept thinking that the baby boomers were retiring and would move to Florida," she says, "so then I said, 'Let's go for it!'" To a vacation property they owned on Maryland's Eastern Shore, they added an investment property in Vero Beach, Florida. At the same time, they sold their colonial house in Cherry Hill and moved into a condo. Kathy has traded her BMW for a Subaru station wagon. "I'm getting rid of stuff now," she says with a shrug.

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Over the years, Kathy has found herself comparing her life to her peers'—and feeling good about the choices she made. At her 40th high-school class reunion, in 2004, she looked around and saw "a lot of very successful people—lawyers, doctors, some millionaires—who are also starting to enjoy life and take the stress off themselves. We had just one African-American girl in our class. She was there at the reunion and stood up and said, 'Are we the best, or what!'"

Kathy says she feels more politically liberal and more tolerant now than she did earlier in life, and she is unhappy about the current war. "What I don't get is all the people who went from Woodstock to saying that it's OK to go to war in Iraq," she says.

She is spending more time baby-sitting her grandchildren, all of whom live within a 20-minute drive. Like many boomers, Kathy continues to feel a restless need to make a larger contribution to the world around her. "I'm not going to just relax and be brain-dead," she says. She worked with the Salvation Army after the Mississippi River floods in 1993 and spent two weeks last fall in Baton Rouge working with the Red Cross relief efforts after Hurricane Katrina. "It was an unbelievable experience," she says. "We were training hundreds of people to work as supervisors in the shelters." Why did she do it? "I really feel that we baby boomers need to give back," she says. "That was my way of saying I can do that."

A lapsed jogger—"My knees gave out"—Kathy watches her cholesterol and tries to walk three or four miles a day. "My priority is to take care of Kathy so I can be more productive for people I care about," she says. "My goal is to stay as healthy as I can before I die." She and Patrick expect to spend much of that time on the 42-foot Grand Banks trawler they keep on the Chesapeake Bay. Its name? *First Boomer.*

LANDON Y. JONES, the former editor of People, *was born during World War II.*

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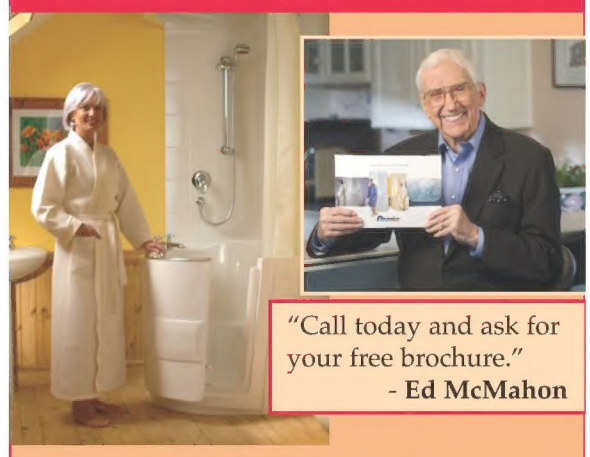

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IN A WEB-BASED MONARCHY,
THERE ARE NO BANS ON FOX-HUNTING **BY MICHAEL GEE**

HAD TEA WITH HER MAJESTY the other day. Elizabeth II loves it when company comes calling. She's just a nice down-palace type person who didn't mind a bit that I was dressed in my bathrobe and flip-flops.

Before the editors of the Brit tabloids have a group aneurysm, I should note that my encounter with the Queen of England didn't involve anything so vulgar and obsolete as actual human contact. We met like proper 21st-century ladies and gentlemen—in cyberspace. Some days it seems that all that's keeping the monarchy afloat is the House of Windsor's Web site, www.royal.gov.uk.

The sovereign's life has not been a happy one the past few centuries, and the march of popular culture is the culprit. In Good Queen Bess' day, unwelcome publicity came from a few libelous balladeers, and she was allowed to behead them. The current Elizabeth has to cope with the *National Enquirer* and "Inside Edition," which may only be sued. Meanwhile, Prince Charles has taken decades of grief for a private life that would've seemed very small beer to Edward VII, let alone Charles II or Henry VIII.

But the monarchy is fighting back. On the Internet the royals still live in a world without *paparazzi*, divorce or bans on fox-hunting. On royal.gov, the family indulges the fairy tale blend of hazy Hollywood history and Victorian rectitude its fans adore. She's not Camilla the Homewrecker here. She's the Duchess of Cornwall, and don't you forget it.

Since the dawn of time, the worst drawback to the monarch's life has been the inability to get out into the real world. Sexual hanky-panky is about the *only* activity kings, queens and princes ever share with the rabble. When a royal wants to go to the beach, he or she must make a state visit to Tahiti.

But now that the real world is an obsolete concept, the Windsors are on even terms with us commoners, at least on the Internet, where they can indulge that most priceless of perks—anonymity. Charles doubtless spends happy hours trolling the ten billion or so sites devoted to filthy, unsubstantiated celebrity gossip. Pop[rhymes with witch].com is bookmarked by every red-blooded Englishman eager to check up on David Beckham and Posh Spice's marriage. As for her Majesty, nothing but the Net can supply England's sovereign with the one thing she is always denied—the opportunity to express opinions.

The queen has silently suffered the company of prime ministers from Anthony Eden to Tony Blair, nine of the stiffest stiffs her nation has produced in its millennia of recorded history. How she must have longed to tell off each and every one of them. From fistfulofeuros.net to gwydionthemagician.blogspot.com, there are hundreds of sites of the left, right and center where Elizabeth can assume a nom de keyboard and declare that the Blessed Isle is going to hell in a gilded carriage.

She can lose herself in games as well. The Cossacks Gold video game collection lets her reverse some of the Crown's less glorious conflicts. "Liberty: The American Revolution" doesn't *have* to end at Yorktown. There hasn't been a monarch since 1776 who hasn't fantasized about throwing that bigmouth Jefferson into the dankest cell in the Tower.

But fantasy can only do so much. In dark moments, when life offers nothing but another relative's third marriage or front-page pix of Prince Harry wearing swastikas, the queen could seek the ultimate on-line consolation. She could click on to jacobite.ca, study some very complex genealogy, then e-mail Franz II, duke of Bavaria and rightful head of the House of Stuart, the royal family that ruled England before progress took the fun out of the job.

Put the Bayreuth festival on hold, Britain's ruling monarch could implore Franz. *Gather a few followers and invade Scotland. Go to Mapquest for directions.*

RICHARD THOMPSON

We welcome Last Page submissions, but due to the volume received, we cannot acknowledge receipt. Send to: Last Page, MRC 951-B, PO Box 37012, Washington, DC 20013-7012.